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Section 1: Identification of the Substance / N	/ *	
1.1 Product identifier	lixture	
Product name	ARKO Gear Oil SP 68	
Product description	Industrial Gear Box Oil	
Product type	Industrial Oil	
MARPOL Annex-1	****	
1.2 Identified uses	T 1 . • 1	
Distribution of substance	Industrial	
Formulation & (re)packing of substance & mixtures	Industrial	
Manufacture of substance	Industrial	
Functional fluids	Industrial	
Section 2: Hazard Identification		
4-	Health	1
Extrem	Flammability	1
e3-	Reactivity	0
	Special	-
High 2-Moderate		
1-Slight		
Section 3: Composition / Information on Ing	redients	
	CAS No.: Not applicable f	or blended product
Product / Ingredient name		sture of hydro-treated hydrocarbons.
Section 4: First Aid Measures		
Inhalation exposure	Remove to fresh air & prov	vide oxygen, if breathing is difficult. Contact physician
Skin contact	Remove contaminated clot	hing. Flush skin with water. Wash skin thoroughly irritation occurs, call a physician.
Swallowing or other	quantities are ingested.Get	n general no treatment is necessary unless large t medical advice.
Eye contact	Rinse continuously with wa	ater for several minutes. Get medical attention, if
Protection first-aiders	Disconnecting electrical su	upply. Ensure adequate ventilation and check that a wailable before entry into confined spaces.
Section 5: Fire Fighting Measures		
5.1 Extinguishing media		
Unsuitable extinguishing media		bon dioxide. Do not use direct water and wet burning product. They may spread the fire. Use e surface.
5.2 Special hazards arising from the substa		
Hazards from the substance or mixture		surised containers may rupture and when exposed lammable vapour cloud.
Hazardous thermal decomposition products	Incomplete combustion is solid and liquid particulate	likely to give rise to a complex mixture of airborne s, gases, including carbon monoxide, H_2S , SO_x ric acid and unidentified organic and inorganic
5.3 Advice for firefighters		
Special precautions for firefighters		by removing all persons from the vicinity of the loaction shall be taken involving any personal risk or

		Firefighters should wear appropriate protective equipment and self-contained
Special pr	otective equipment for firefighters	breathing apparatus (SCBA) with a full face- piece operated in positive pressure
··· · · · ·		mode. Clothing for firefighters (including helmets, protective boots and gloves)
		conforming to European standard EN 469 will provide a basic level of
		protection for chemical incidents.

Section 6: Accidental Release Measures	
6.1 Personal precautions, protective eq	
	Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the
For non-emergency personnel	 emergency. Stop leak if safe to do so. Avoid direct contact with the product. Stay upwind / keep distance from source. In case of large spillages, alert occupants in downwind areas. Eliminate all ignition sources if safe to do so. Spillages of limited amounts of product, especially in the open air when vapours will be usually quickly dispersed, are dynamic situations, which will presumably limit the exposure to dangerous concentrations. Note : Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave / current direction and speed) may significantly influence the choice of appropriate actions.
For emergency responders	For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken. Small spillages: Normal antistatic working clothes are usually adequate. Large spillages: Full body suit of chemically resistant and thermal resistant material should be used. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons. Note: Gloves made of PVA are not water-resistant, and are not suitable for
	emergency use. Safety helmet, antistatic non-skid safety shoes or boots. Goggles and / or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory Protection : A half or full-face respirator with filter(s) for organic vapours (and when applicable for H ₂ S) a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.
	Prevent product from entering sewers, rivers or other bodies of water. If necessary dike the product with dry earth, sand or similar non-combustible materials. In case of soil contamination, remove contaminated soil and treat in
6.2 Environmental precautions	 In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities.
6.3 Methods and material for containm	ent and cleaning up
Small spill	Stop leak if without risk. Absorb spilled product with suitable non-combustible materials.
Large spill	Large spillages may be cautiously covered with foam, if available, to limit vapour cloud formation. Do notuse water jet. When inside buildings or confined spaces, ensure adequate ventilation. Transfer collected product and other contaminated

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	materials to suitable containers for recovery or safe disposal.
6.4 Reference to other sections	See Section 1: For emergency contact information. See Section 8: For information on appropriate personal protective equipment. See Section 13: For additional waste treatment information.
Section 7: Handling and Storage	
7.1 Advice on general information – hygiene, storage	Obtain special instructions before use. Keep away from heat / sparks / open flames/hot surfaces. No smoking. Use and store only outdoors or in a well-ventilated area. Hazard of slipping on spilt product. Avoid release to the environment.
7.2 Conditions for safe storage including any incompatibilities	Storage area layout, tank design, equipment and operating procedures must comply with the relevant regional, national or local legislation. Storage installations should be designed with adequate bunds incase of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Store separately from oxidising agents. Keep only in the original container or in a suitable container for this kind of
	product. Keep container tightly closed and sealed until ready for use. Do not store in unlabelled containers. Containers that havebeen opened must be carefully resealed and kept upright to prevent leakage. Empty containers may contain harmful, flammable / combustible or explosive residue or vapours. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards. Protect from sunlight.
7.3 Specific end use(s) – Recommendations	Not available
Section 8: Exposure Controls / Personal Pro	
The list of Identified Uses in Section 1 shou Exposure Scenario(s).	Id be consulted for any available use-specific information provided in the
8.1 Control parameters	
Occupational exposure limits	
Product / Ingredient name	Distillates, mixture of hydrocarbons
Exposure limits values	AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes.Form: mist and fume [Air contaminant]. AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes.Form: mist and fume.
Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres – Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents)European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents formethods for the determination of hazardous substances will also be

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8.2 Exposure control Appropriate engineering controls	Mechanical ventilation and local exhaust will reduce exposure via the air. Use oil resistant material in construction of handling equipment. Store under recommended conditions and if heated, temperature control equipment should be used to avoid overheating.
Individual protection measures	
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before reuse.
Eye / face protection	Recommended: Safety glasses with side shields.
Skin protection	
Hand protection	4 – 8 hours (breakthrough time): nitrile rubber.
Body protection	Wear protective clothing if there is a risk of skin contact. Change contaminated clothes at the end of working shift.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.
Environmental exposure control	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
Section 9: Physical and Chemical Proper	ties
Appearance	Clear
Physical state	Liquid
Colour	Brownish
Odor	Petroleum odor
Odour threshold	Not available
pH	Not applicable
Pour point	< -3 °C (ASTM D 97)
Flash point	> 210 °C
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Flammability limits in air (lower), % by volume	Not available
Flammability limits in air (upper), % by volume	Not available
Vapour pressure	≤ 0,1 hPa (20 °C) (Mineral oil, ASTM D 5191) (CONCAWE, 2010)
Density Solubility (ies)	0.88 max at 15 °C
Solubility (water)	Insoluble in water
Partition coefficient (n-octanol/water)	Not available
Decomposition temperature	No data
Auto-ignition temperature	>300 °C
Kinematic viscosity at 40 °C (104 °F)	68 cSt (ASTM D 445) (Typical Value)
Explosive properties	No data
Oxidising properties	No data

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DMSO extractable comp	oounds for base oi	l Not available	e		
substance(s)according to		<3 %			
Section 10: Stability and	Reactivity				
10.1 Reactivity		No specific t ingredients.	est data related to react	ivity available for this p	roduct or its
10.2 Chemical stability			r normal conditions		
10.3 Possibility of hazard	ous reactions	Under norma	al conditions of storage	and use, hazardous rea	ctions will not occur.
		Oxidising ag	•	,	
10.4 Conditions to avoid			from extreme heat and		
10.5 Incompatible materi	als			give rise to a complex r	
10.6 Hazardous decompo	osition products	H ₂ S, SO _x (su		s, gases, including carb uric acid andunidentifi	
SECTION 11: Toxicologi	cal Information				
11.1 Information on toxic	cological effects				
Acute toxicity					
Product / ingredient name	Resu	lt	Species	Dose	Exposure
Distillate	LC 50 Inhalat and mi		Rat	>2.18mg/l	4 hours
(Petroleum), hydro treated heavy	LD 50 De	ermal	Rabbit	> 5000 mg/kg	_
paraffinic	LD 50 (Dral	Rat	>15000 mg/kg	-
Irritation / corrosion					
Skin					
Еуе		No known si	gnificant effects or crit	ical hazards.	
Respiratory					
Sensation					
Skin Bospiratory		No known si	gnificant effects or crit	ical hazards.	
Respiratory Mutagenicity			1	ct or any components r	present
Carcinogenicity			0.1 % aremultigene o	r genotoxic. sed on an severely hydro	treated distillate
			should not be regarded		streated distillate.
Reproductive toxicity			Contains no ingredient		
		as toxic to re	-		
Specific target organ toxic exposure	city – single	Not classifie	d		
Specific target organ toxic exposure	rity – repeated				
Aspiration hazard		-	nazard – Category 1		
Information on likely rout	•	Not available	e		
Potential acute health effect	cts			· · · ·	
Eye contact			may cause redness and		an and maninetan-
Inhalation		irritation.	-	elevated temperatures m	lay cause respiratory
Skin contact			gnificant effects or crit		
Ingestion Potential chronic health ef	Foots	May be fatal	if swallowed and enter	s airways.	
General	iects	No known a	mificant affacts or anit	ical hazarda	
Uchiciai		μνο κποψη \$1	gnificant effects or criti	ical hazarus.	

The base oil(s) in this product is based on an severely hydrotreated distillate. The
product should not beregarded as a carcinogen.

Mutagenicity		
Teratogenicity		
Product / ingredient name	No known significant effects or critical hazards.	
Fertility effects		
Other information Specific hazard	Not available	
Section 12: Ecological Information		
12.1 Toxicity	Not expected to be harmful to aquatic organisms.	
12.2 Persistence and degradability	Not inherently biodegradable.	
12.3 Bioaccumulative potential	Bioaccumulation is unlikely to be significant because of the low water solubility	
	of this product.	
12.4 Mobility in soil	Not considered mobile.	
12.5 Results of PBT & vPvB assessment	Not applicable	
12.6 Other adverse effects	Insoluble in water. Spills may form a film on water surfaces causing physical	
	damage to organisms. Oxygen transfer could also be impaired.	
Section 13: Disposal Considerations		

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

Product Methods of disposal	Where possible (e.g. in the absence of relevant contamination), recycling of used substance is feasible and recommended. This substance can be burned or incinerated, subject to national/local authorisations, relevant contamination limits, safety regulations and air quality legislation. Contaminatedor waste substance (not directly recyclable): Disposal can be carried out directly, or by delivery to qualified waste handlers. National legislation may identify a specific organisation, and/or prescribe composition limits and methods for recovery or disposal
Hazardous waste	Yes
European waste catalogue (EWC) Waste Code 13 03 07*	Waste designation.
Packaging	Mineral-based non-chlorinated insulating and heat transmission oils.
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste packaging should berecycled. Incineration or landfill should only be considered when recycling is not feasible.

Section 14: Transport Information International transport regulations

international transport regula				
	ADR / RID	ADN	IMO / IMDG Classification	ICAO / IATA Classification
14.1 UN number	Not regulated	Not regulated	Not regulated	Not regulated
14.2 UN proper shipping name	—	_	—	_
14.3 Transport hazard class(es)	—	_	—	_
14.4 Packing group	_	—	—	—
14.5 Environmental hazards	No	No	No	No
Additional Information	—	—	—	—
14.6 Special precautions for us	ser oils			
14.7 Transport in bulk accordi	ing to Annex I of MARP	OL 73/78 and the IBC C	ode	
Section 15: Regulatory Inform	ation			

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture EU Regulation (EC) No.

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1907/2006 (REACH)			
Annex XIV – List of substances subject to authorisation Annex XIV Substances of very high concern	None of the components are listed		
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.	Not applicable		
International Lists National Inventory	Inventory name		
Australia	Australian Inventory of Chemical Substances (AICS) – Yes		
Canada	Domestic Substances List (DSL) – Yes Non-Domestic Substances List (NDSL) – No		
China	Inventory of Existing Chemical Substances in China (IECSC) – Yes		
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS) – Yes		
	European List of Notified Chemical Substances (ELINCS) – No		
Japan	Inventory of Existing and New Chemical Substances (ENCS) – Yes		
Korea	Existing Chemicals List (ECL) – Yes		
New Zealand	New Zealand Inventory – Yes		
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS) – Yes		
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory – Yes		
governing country(s)	this product comply with the inventory requirements administered by the ents of the product are not listed or exempt from listing on the inventory		
Revision comments			
Legend to abbreviations			
ADR	European agreement concerning the international carriage of dangerous good by road.		
RID	Regulations agreement concerning the international carriage of dangerous good by rail.		
IMDG Code	International Maritime Dangerous Goods Code.		
ICAO	International Civil Aviation Organization.		
ΙΑΤΑ	International Air Transport Association.		
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.		
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No.1272/2008].		
SCBA	Self-Contained Breathing Apparatus.		
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulation[Regulation (EC) No. 1907/2006].		
LC 50	Median lethal concentration.		
LD 50	Median lethal dose.		
PBT	Persistent, Bio accumulative and Toxic.		

 $\begin{array}{c} \mbox{Regulation}\,(EC)\,\mbox{no}\,1907/2006,\mbox{Annex}\,\,II\,\mbox{as}\,\,Amended\,\,\mbox{by}\,\,Commission}\,\,Regulation\,(EU)\\ 2015/830 \end{array}$

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Section 1: Identification of the Substance / M	lixture		
1.1 Product identifier			
Product name	ARKO Gear Oil SP 100		
Product description	Industrial Gear Box Oil		
Product type	Industrial Oil		
MARPOL Annex-1	****		
1.2 Identified uses			
Distribution of substance	Industrial		
Formulation & (re)packing of substance & mixtures	Industrial		
Manufacture of substance	Industrial		
Functional fluids	Industrial		
Section 2: Hazard Identification			
4-	Health	1	
Extrem	Flammability	1	
e3-	Reactivity	0	
	Special	_	
High 2-Moderate			
1-Slight			
Section 3: Composition / Information on Ing	redients		
	CAS No.: Not applicable for	or blended product	
Product / Ingredient name		ture of hydro-treated hydrocarbons.	
Section 4: First Aid Measures			
Inhalation exposure	Remove to fresh air & provide oxygen, if breathing is difficult. Contact physician		
Skin contact	Remove contaminated clothing. Flush skin with water. Wash skin thoroughly with mild soap & water. If irritation occurs, call a physician.		
Swallowing or other	Do not induce vomiting. In general no treatment is necessary unless large quantities are ingested. Get medical advice.		
Eye contact	Rinse continuously with water for several minutes. Get medical attention, if irritation persists.		
Protection first-aiders	Disconnecting electrical supply. Ensure adequate ventilation and check that a safe and breathing area is available before entry into confined spaces.		
Section 5: Fire Fighting Measures			
5.1 Extinguishing media			
Unsuitable extinguishing media	Use dry powder, foam, carbon dioxide. Do not use direct water and wet chemicals, or water on the burning product. They may spread the fire. Use foam simultaneously on the surface.		
5.2 Special hazards arising from the substan			
Hazards from the substance or mixture	Flammable liquids in pressurised containers may rupture and when exposed to heat, creating a highly flammable vapour cloud.		
Hazardous thermal decomposition products	Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide, H_2S , SO_x (sulphur oxides) or sulphuric acid and unidentified organic and inorganic compounds.		
5.3 Advice for firefighters			
Special precautions for firefighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Noaction shall be taken involving any personal risk or without suitable training.		

		Firefighters should wear appropriate protective equipment and self-contained		
Special protective equipment for firefighters	breathing apparatus (SCBA) with a full face- piece operated in positive pressure			
		mode. Clothing for firefighters (including helmets, protective boots and gloves)		
		conforming to European standard EN 469 will provide a basic level of		
		protection for chemical incidents.		

Section 6: Accidental Release Measures	8
6.1 Personal precautions, protective eq	
	Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the
For non-emergency personnel	 emergency. Stop leak if safe to do so. Avoid direct contact with the product. Stay upwind / keep distance from source. In case of large spillages, alert occupants in downwind areas. Eliminate all ignition sources if safe to do so. Spillages of limited amounts of product, especially in the open air when vapours will be usually quickly dispersed, are dynamic situations, which will presumably limit the exposure to dangerous concentrations. Note : Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave / current direction and speed) may significantly influence the choice of appropriate actions.
For emergency responders	For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken. Small spillages: Normal antistatic working clothes are usually adequate. Large spillages: Full body suit of chemically resistant and thermal resistant material should be used. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons. Note: Gloves made of PVA are not water-resistant, and are not suitable for
	emergency use. Safety helmet, antistatic non-skid safety shoes or boots. Goggles and / or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory Protection : A half or full-face respirator with filter(s) for organic vapours (and when applicable for H ₂ S) a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.
	Prevent product from entering sewers, rivers or other bodies of water. If necessary dike the product with dry earth, sand or similar non-combustible materials. In case of soil contamination, remove contaminated soil and treat in
6.2 Environmental precautions	 accordance with local regulations. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities.
6.3 Methods and material for containn	nent and cleaning up
Small spill	Stop leak if without risk. Absorb spilled product with suitable non-combustible materials.
Large spill	Large spillages may be cautiously covered with foam, if available, to limit vapour cloud formation. Do notuse water jet. When inside buildings or confined spaces, ensure adequate ventilation. Transfer collected product and other contaminated

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	materials to suitable containers for recovery or safe disposal.
6.4 Reference to other sections	See Section 1: For emergency contact information. See Section 8: For information on appropriate personal protective equipment.See Section 13: For additional waste treatment information.
Section 7: Handling and Storage	
7.1 Advice on general information – hygiene, storage	Obtain special instructions before use. Keep away from heat / sparks / open flames/hot surfaces. No smoking. Use and store only outdoors or in a well-ventilated area. Hazard of slipping on spilt product. Avoid release to the environment.
7.2 Conditions for safe storage including any incompatibilities	Storage area layout, tank design, equipment and operating procedures must comply with the relevant regional, national or local legislation. Storage installations should be designed with adequate bunds incase of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Store separately from oxidising agents.
	Keep only in the original container or in a suitable container for this kind of product. Keep container tightly closed and sealed until ready for use. Do not store in unlabelled containers. Containers that havebeen opened must be carefully resealed and kept upright to prevent leakage. Empty containers may contain harmful, flammable / combustible or explosive residue or vapours. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards. Protect from sunlight.
7.3 Specific end use(s) – Recommendations	Not available
Section 8: Exposure Controls / Personal Pro	
	ild be consulted for any available use-specific information provided in the
Exposure Scenario(s). 8.1 Control parameters	
Occupational exposure limits	
Product / Ingredient name	Distillates, mixture of hydrocarbons
Exposure limits values	AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes. Form: mist and fume [Air contaminant]. AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes. Form: mist and fume.
Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres – Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents)European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents formethods for the determination of hazardous substances will also be required.

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8.2 Exposure control Appropriate engineering controls	Mechanical ventilation and local exhaust will reduce exposure via the air. Use oil resistant material in construction of handling equipment. Store under recommended conditions and if heated, temperature control equipment should be used to avoid overheating.			
Individual protection measures				
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before reuse.			
Eye / face protection	Recommended: Safety glasses with side shields.			
Skin protection				
Hand protection	4 – 8 hours (breakthrough time): nitrile rubber.			
Body protection	Wear protective clothing if there is a risk of skin contact. Change contaminated clothes at the end of working shift.			
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.			
Respiratory protection	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.			
Environmental exposure control	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.			
Section 9: Physical and Chemical Properti	ies			
Appearance	Clear			
Physical state	Liquid			
Colour	Brownish			
Odor	Petroleum odor			
Odour threshold	Not available			
pН	Not applicable			
Pour point	<-3 °C (ASTM D 97)			
Flash point	> 210 °C			
Evaporation rate	Not available			
Flammability (solid, gas)	Not available			
Flammability limits in air (lower), % by volume	Not available			
Flammability limits in air (upper), % by volume	Not available			
Vapour pressure	≤ 0,1 hPa (20 °C) (Mineral oil, ASTM D 5191) (CONCAWE, 2010)			
Density Solubility (ies) 0.88 max at 15 °C				
Solubility (water)	Insoluble in water			
Partition coefficient (n-octanol/water)	Not available			
Decomposition temperature				
Auto-ignition temperature	>300 °C			
Kinematic viscosity at 40 °C (104 °F)	100 cSt (ASTM D 445) (Typical Value)			
Explosive properties	No data			
Oxidising properties No data				

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DMSO extractable comp	ounds for base oi	l Not available	e			
substance(s)according to		<3 %	-			
Section 10: Stability and	Reactivity					
10.1 Reactivity		No specific t ingredients.	est data related to react	ivity available for this p	roduct or its	
10.2 Chemical stability		Stable under	r normal conditions			
10.3 Possibility of hazard	ous reactions	Under norma	al conditions of storage	and use, hazardous rea	ctions will not occur.	
		Oxidising ag	Oxidising agent.			
10.4 Conditions to avoid		Keep away from extreme heat and oxidising agents.				
10.5 Incompatible materi	als			give rise to a complex n		
10.6 Hazardous decompo	osition products	H ₂ S, SO _x (su	airborne solid and liquid particulates, gases, including carbon monoxide, H_2S , SO_x (sulphur oxides) or sulphuric acid and unidentified organic and inorganic compounds.			
SECTION 11: Toxicologi	cal Information					
11.1 Information on toxic	cological effects					
Acute toxicity						
Product / ingredient name	Resu	lt	Species	Dose	Exposure	
Distillate	LC 50 Inhalat and mi		Rat	>2.18mg/l	4 hours	
(Petroleum), hydro treated heavy	LD 50 De	ermal	Rabbit	> 5000	—	
paraffinic	LD 500)1	D.4	mg/kg		
	LD 50 (Drai	Rat	>15000 mg/kg	-	
Irritation / corrosion				IIIB, KB		
Skin						
Eye		No known si	gnificant effects or crit	ical hazards.		
Respiratory						
Sensation						
Skin		No known si	gnificant effects or crit	ical hazards.		
Respiratory			-			
Mutagenicity			ilable to indicate produ 0.1 % aremultigene o	ct or any components p r genotoxic.	resent	
Carcinogenicity		The base oil(s) in this product is based on an severely hydrotreated distillate.				
Reproductive toxicity		The product should not be regarded as a				
		carcinogen. Contains no ingredient listed as toxic to reproduction.				
Specific target organ toxicity – single exposure		Not classified				
Specific target organ toxic	ity – repeated					
exposure						
Aspiration hazard		Aspiration hazard – Category 1				
Information on likely routes of exposure		Not available				
Potential acute health effects						
			Eye contact may cause redness and transient pain.			
irritation.						
Skin contact No known significant effects or						
Ingestion	°°4-	May be fatal	if swallowed and enter	s airways.		
Potential chronic health ef	iects	No known -	anificant offects or and	ical hazarda		
General		μνο known si	gnificant effects or criti	ical nazafus.		

Carcinogenicity	The base oil(s) in this product is based on an severely hydrotreated distillate. The
	product should not beregarded as a carcinogen.

Mutagenicity			
Teratogenicity			
Product / ingredient name	No known significant effects or critical hazards.		
Fertility effects			
Other information Specific hazard	Not available		
Section 12: Ecological Information			
12.1 Toxicity	Not expected to be harmful to aquatic organisms.		
12.2 Persistence and degradability	Not inherently biodegradable.		
12.3 Bioaccumulative potential	Bioaccumulation is unlikely to be significant because of the low water solubility		
	of this product.		
12.4 Mobility in soil	Not considered mobile.		
12.5 Results of PBT & vPvB assessment	Not applicable		
12.6 Other adverse effects	Insoluble in water. Spills may form a film on water surfaces causing physical		
	damage to organisms. Oxygen transfer could also be impaired.		
Section 13: Disposal Considerations			
The information in this section contains gen	eric advice and guidance. The list of Identified Uses in Section 1 should be		
consulted for any available use-specific information provided in the Exposure Scenario(s).			
	Where possible (e.g. in the absence of relevant contamination), recycling of		
Product Mathada of dispesal	used substance is feasible and recommended. This substance can be burned		
Product Methods of disposal	or incinerated, subject to national/local		
	authorisations, relevant contamination limits, safety regulations and air quality		

authorisations, relevant contamination limits, safety regulations and air quality legislation. Contaminated or waste substance (not directly recyclable): Disposal can be carried out directly, or by delivery to qualified waste handlers. National legislation may identify a specific organisation, and/or prescribe composition limits and methods for recovery or disposal

Hazardous waste	Yes
European waste catalogue (EWC) Waste	Waste designation.
Code 13 03 07*	
Packaging	Mineral-based non-chlorinated insulating and heat transmission oils.
	The generation of waste should be avoided or minimised wherever possible. Waste packaging should berecycled. Incineration or landfill should only be
	considered when recycling is not feasible.

Section 14: Transport Information

International transport regulations					
	ADR / RID	ADN	IMO / IMDG Classification	ICAO / IATA Classification	
14.1 UN number	Not regulated	Not regulated	Not regulated	Not regulated	
14.2 UN proper shipping name	_	_	_	_	
14.3 Transport hazard class(es)	_	—	—	—	
14.4 Packing group	—	—	—	—	
14.5 Environmental hazards	No	No	No	No	
Additional Information	_	—	—	—	
14.6 Special precautions for user oils					
14.7 Transport in bulk according to Annex I of MARPOL 73/78 and the IBC Code					
Section 15: Regulatory Information					

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture EU Regulation (EC) No.

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1907/2006 (REACH)		
Annex XIV – List of substances subject to authorisation Annex XIV Substances of very high concern	None of the components are listed	
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.	Not applicable	
International Lists National Inventory	Inventory name	
Australia	Australian Inventory of Chemical Substances (AICS) – Yes	
Canada	Domestic Substances List (DSL) – Yes	
Canada	Non-Domestic Substances List (NDSL) – No	
China	Inventory of Existing Chemical Substances in China (IECSC) – Yes	
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS) – Yes	
	European List of Notified Chemical Substances (ELINCS) – No	
Japan	Inventory of Existing and New Chemical Substances (ENCS) – Yes	
Korea	Existing Chemicals List (ECL) – Yes	
New Zealand	New Zealand Inventory – Yes	
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS) – Yes	
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory – Yes	
governing country(s)	his product comply with the inventory requirements administered by the nts of the product are not listed or exempt from listing on the inventory	
Revision comments		
Legend to abbreviations		
ADR	European agreement concerning the international carriage of dangerous good by road.	
RID	Regulations agreement concerning the international carriage of dangerous good by rail.	
IMDG Code	International Maritime Dangerous Goods Code.	
ICAO	International Civil Aviation Organization.	
ΙΑΤΑ	International Air Transport Association.	
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.	
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No.1272/2008].	
SCBA	Self-Contained Breathing Apparatus.	
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulation[Regulation (EC) No. 1907/2006].	
LC 50	Median lethal concentration.	
LD 50	Median lethal dose.	
PBT	Persistent, Bio accumulative and Toxic.	

 $\begin{array}{c} \mbox{Regulation}\,(EC)\,\mbox{no}\,1907/2006,\mbox{Annex}\,\,II\,\mbox{as}\,\,Amended\,\,\mbox{by}\,\,Commission}\,\,Regulation\,(EU) \\ 2015/830 \end{array}$

Disclaimer: Information contained in this material data sheet is believed to be reliable, but no representation, guarantee or warranties of any kind made as to its accuracy, suitability for a particular application or results to be obtained from them. It is up to the manufacturer / seller to ensure that the information content in the material data sheet is relevant to the product manufactured / handled or sold by, as the case may be. R K PETROLEUMS makes no warranties expressed or implied in respect of the adequacyof this document for any particular purpose.

Section 1: Identification of the Substance / M	Aixture		
1.1 Product identifier			
Product name	ARKO Gear Oil SP 150		
Product description	Industrial Gear Box Oil		
Product type	Industrial Oil		
MARPOL Annex-1	***		
1.2 Identified uses	-		
Distribution of substance	Industrial		
Formulation & (re)packing of substance & mixtures	Industrial		
Manufacture of substance	Industrial		
Functional fluids	Industrial		
Section 2: Hazard Identification			
4-	Health	1	
Extrem	Flammability	1	
e3-	Reactivity	0	
High	Special	-	
2-Moderate			
1-Slight			
Section 3: Compostion / Information on Ing	redients		
	CAS No.: Not applicable for	or blended product.	
Product / Ingredient name		ture of hydro-treated hydrocarbons.	
Section 4: First Aid Measures			
Inhalation exposure	Remove to fresh air & provide oxygen, if breathing is difficult. Contact physici		
Skin contact	Remove contaminated clothing. Flush skin with water. Wash skin thoroughly with mild soap & water. If irritation occurs, call a physician.		
Swallowing or other	Do not induce vomiting. In general no treatment is necessary unless large quantities are ingested. Get medical advice.		
Eye contact	Rinse continuously with water for several minutes. Get medical attention, if irritation persists.		
Protection first-aiders	-	pply. Ensure adequate ventilation and check that a vailable before entry into confined spaces.	
Section 5: Fire Fighting Measures			
5.1 Extinguishing media			
Unsuitable extinguishing media		bon dioxide. Do not use direct water and wet ourning product. They may spread the fire. Use surface.	
5.2 Special hazards arising from the substan			
Hazards from the substance or mixture	Flammable liquids in press to heat, creating a highly f	surised containers may rupture and when exposed ammable vapour cloud.	
Hazardous thermal decomposition products	solid and liquid particulates	ikely to give rise to a complex mixture of airborne s, gases, including carbon monoxide, H_2S , SO_x ic acid and unidentified organic and inorganic	
5.3 Advice for firefighters			
Special precautions for firefighters		by removing all persons from the vicinity of the oaction shall be taken involving any personal risk or	

		Firefighters should wear appropriate protective equipment and self-contained
Special protective equipment for firefighters	breathing apparatus (SCBA) with a full face- piece operated in positive pressure	
		mode. Clothing for firefighters (including helmets, protective boots and gloves)
		conforming to European standard EN 469 will provide a basic level of
		protection for chemical incidents.

Section 6: Accidental Release Measures	8
6.1 Personal precautions, protective eq	
	Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the
For non-emergency personnel	 emergency. Stop leak if safe to do so. Avoid direct contact with the product. Stay upwind / keep distance from source. In case of large spillages, alert occupants in downwind areas. Eliminate all ignition sources if safe to do so. Spillages of limited amounts of product, especially in the open air when vapours will be usually quickly dispersed, are dynamic situations, which will presumably limit the exposure to dangerous concentrations. Note : Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave / current direction and speed) may significantly influence the choice of appropriate actions.
For emergency responders	For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken. Small spillages: Normal antistatic working clothes are usually adequate. Large spillages: Full body suit of chemically resistant and thermal resistant material should be used. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons.
	Note: Gloves made of PVA are not water-resistant, and are not suitable for emergency use. Safety helmet, antistatic non-skid safety shoes or boots. Goggles and / or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory Protection : A half or full-face respirator with filter(s) for organic vapours (and when applicable for H ₂ S) a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.
	Prevent product from entering sewers, rivers or other bodies of water. If necessary dike the product with dry earth, sand or similar non-combustible materials. In case of soil contamination, remove contaminated soil and treat in
6.2 Environmental precautions	 accordance with local regulations. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities.
6.3 Methods and material for containn	nent and cleaning up
Small spill	Stop leak if without risk. Absorb spilled product with suitable non-combustible materials.
Large spill	Large spillages may be cautiously covered with foam, if available, to limit vapou cloud formation. Do notuse water jet. When inside buildings or confined spaces, ensure adequate ventilation. Transfer collected product and other contaminated

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	materials to suitable containers for recovery or safe disposal.
6.4 Reference to other sections	See Section 1: For emergency contact information. See Section 8: For information on appropriate personal protective equipment.See Section 13: For additional waste treatment information.
Section 7: Handling and Storage	
7.1 Advice on general information – hygiene, storage	Obtain special instructions before use. Keep away from heat / sparks / open flames/hot surfaces. No smoking. Use and store only outdoors or in a well-ventilated area. Hazard of slipping on spilt product. Avoid release to the environment.
7.2 Conditions for safe storage including any incompatibilities	Storage area layout, tank design, equipment and operating procedures must comply with the relevant regional, national or local legislation. Storage installations should be designed with adequate bunds incase of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Store separately from oxidising agents.
	Keep only in the original container or in a suitable container for this kind of product. Keep container tightly closed and sealed until ready for use. Do not store in unlabelled containers. Containers that havebeen opened must be carefully resealed and kept upright to prevent leakage. Empty containers may contain harmful, flammable / combustible or explosive residue or vapours. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards. Protect from sunlight.
7.3 Specific end use(s) – Recommendations	Not available
Section 8: Exposure Controls / Personal Pro	
	Id be consulted for any available use-specific information provided in the
Exposure Scenario(s). 8.1 Control parameters	
Occupational exposure limits	
Product / Ingredient name	Distillates, mixture of hydrocarbons
Exposure limits values	AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes. Form: mist and fume [Air contaminant]. AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes. Form: mist and fume.
Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres – Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents)European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents formethods for the determination of hazardous substances will also be required.

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8.2 Exposure control Appropriate engineering controls	Mechanical ventilation and local exhaust will reduce exposure via the air. Use oil resistant material in construction of handling equipment. Store under recommended conditions and if heated, temperature control equipment should be used to avoid overheating.	
Individual protection measures		
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before reuse.	
Eye / face protection	Recommended: Safety glasses with side shields.	
Skin protection		
Hand protection	4 – 8 hours (breakthrough time): nitrile rubber.	
Body protection	Wear protective clothing if there is a risk of skin contact. Change contaminated clothes at the end of working shift.	
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.	
Respiratory protection	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.	
Environmental exposure control	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.	
Section 9: Physical and Chemical Propertie	es	
Appearance	Clear	
Physical state	Liquid	
Colour	Brownish	
Odor	Petroleum odor	
Odour threshold	Not available	
pН	Not applicable	
Pour point	<-6 °C (ASTM D 97)	
Flash point	> 230 °C	
Evaporation rate	Not available	
Flammability (solid, gas)	Not available	
Flammability limits in air (lower), % by volume	Not available	
Flammability limits in air (upper), % by volume	Not available	
Vapour pressure	≤ 0,1 hPa (20 °C) (Mineral oil, ASTM D 5191) (CONCAWE, 2010)	
Density Solubility (ies)	0.88 max at 15 °C	
Solubility (water)	Insoluble in water	
Partition coefficient (n-octanol/water)	Not available	
Decomposition temperature	No data	
Auto-ignition temperature	>300 °C	
Kinematic viscosity at 40 °C (104 °F)	150 cSt (ASTM D 445) (Typical Value)	
Explosive properties	No data	

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DMSO extractable comp	ounds for base oi	l Not available	e		
substance(s)according to		<3 %	-		
Section 10: Stability and	Reactivity				
10.1 Reactivity		No specific t ingredients.	est data related to react	ivity available for this p	roduct or its
10.2 Chemical stability		Stable under	r normal conditions		
10.3 Possibility of hazard	ous reactions	Under norma	al conditions of storage	and use, hazardous rea	ctions will not occur.
		Oxidising ag	gent.		
10.4 Conditions to avoid			from extreme heat and		
10.5 Incompatible materi	als			give rise to a complex n	
10.6 Hazardous decompo	osition products	H ₂ S, SO _x (su		s, gases, including carb uric acid andunidentific	
SECTION 11: Toxicologi	cal Information				
11.1 Information on toxic	cological effects				
Acute toxicity					
Product / ingredient name	Resu	lt	Species	Dose	Exposure
Distillate	LC 50 Inhalat and mi		Rat	>2.18mg/l	4 hours
(Petroleum), hydro treated heavy	LD 50 De	ermal	Rabbit	> 5000	—
paraffinic	LD 500)1	D.4	mg/kg	
	LD 50 (Drai	Rat	>15000 mg/kg	-
Irritation / corrosion				IIIB, KB	
Skin					
Eye		No known si	gnificant effects or crit	ical hazards.	
Respiratory					
Sensation					
Skin		No known si	gnificant effects or crit	ical hazards.	
Respiratory			-		
Mutagenicity			ilable to indicate produ 0.1 % aremultigene o	ct or any components p r genotoxic.	resent
Carcinogenicity			· · · · · · · · · · · · · · · · · · ·	sed on an severely hydro	treated distillate.
Reproductive toxicity		-	should not be regarded		
		as toxic to re	Contains no ingredient	Insted	
Specific target organ toxic exposure	city – single	Not classifie	•		
Specific target organ toxic	ity – repeated				
exposure	• · · · · · · · ·				
Aspiration hazard			nazard – Category 1		
Information on likely route	1	Not available	e		
Potential acute health effec	cts			· · · ·	
Eye contact			may cause redness and	1	ou oouco magninat
Inhalation		irritation.	-	elevated temperatures m	ay cause respiratory
Skin contact			gnificant effects or crit		
Ingestion	°°4-	May be fatal	if swallowed and enter	s airways.	
Potential chronic health ef	iects	No known -	anificant offects or and	ical hazarda	
General		μνο known si	gnificant effects or criti	ical nazafus.	

The base oil(s) in this product is based on an severely hydrotreated distillate. The
product should not beregarded as a carcinogen.

Mutagenicity	No brown significant offects on original because	
Teratogenicity		
Product / ingredient name	No known significant effects or critical hazards.	
Fertility effects		
Other information Specific hazard	Not available	
Section 12: Ecological Information		
12.1 Toxicity	Not expected to be harmful to aquatic organisms.	
12.2 Persistence and degradability	Not inherently biodegradable.	
12.3 Bioaccumulative potential	Bioaccumulation is unlikely to be significant because of the low water solubility	
	of this product.	
12.4 Mobility in soil	Not considered mobile.	
12.5 Results of PBT & vPvB assessment	Not applicable	
12.6 Other adverse effects	Insoluble in water. Spills may form a film on water surfaces causing physical	
	damage to organisms. Oxygen transfer could also be impaired.	
Section 13: Disposal Considerations		

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

Product Methods of disposal	Where possible (e.g. in the absence of relevant contamination), recycling of used substance is feasible and recommended. This substance can be burned or incinerated, subject to national/local authorisations, relevant contamination limits, safety regulations and air quality legislation. Contaminatedor waste substance (not directly recyclable): Disposal can be carried out directly, or by delivery to qualified waste handlers. National legislation may identify a specific organisation, and/or prescribe composition limits and methods for recovery or disposal
Hazardous waste	Yes
European waste catalogue (EWC) Waste Code 13 03 07*	Waste designation.
Packaging	Mineral-based non-chlorinated insulating and heat transmission oils.
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste packaging should berecycled. Incineration or landfill should only be considered when recycling is not feasible.

Section 14: Transport Information International transport regulations

international transport regula				
	ADR / RID	ADN	IMO / IMDG Classification	ICAO / IATA Classification
14.1 UN number	Not regulated	Not regulated	Not regulated	Not regulated
14.2 UN proper shipping name	_	_	—	_
14.3 Transport hazard class(es)	_	_	—	_
14.4 Packing group	—	—	—	—
14.5 Environmental hazards	No	No	No	No
Additional Information	_	—	—	—
14.6 Special precautions for us	er oils			
14.7 Transport in bulk accordi	ing to Annex I of MARP	OL 73/78 and the IBC C	ode	
Section 15: Regulatory Inform	ation			

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture EU Regulation (EC) No.

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	Salety Data-Sileet	
1907/2006 (REACH)		
Annex XIV – List of substances subject to authorisation Annex XIV Substances of very high concern	None of the components are listed	
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.	Not applicable	
International Lists National Inventory	Inventory name	
Australia	Australian Inventory of Chemical Substances (AICS) – Yes	
Canada	Domestic Substances List (DSL) – Yes Non-Domestic Substances List (NDSL) – No	
China	Inventory of Existing Chemical Substances in China (IECSC) – Yes	
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS) – Yes	
	European List of Notified Chemical Substances (ELINCS) – No	
Japan	Inventory of Existing and New Chemical Substances (ENCS) – Yes	
Korea	Existing Chemicals List (ECL) – Yes	
New Zealand	New Zealand Inventory – Yes	
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS) – Yes	
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory – Yes	
governing country(s)	this product comply with the inventory requirements administered by the ents of the product are not listed or exempt from listing on the inventory	
Revision comments		
Legend to abbreviations		
ADR	European agreement concerning the international carriage of dangerous good by road.	
RID	Regulations agreement concerning the international carriage of dangerous good by rail.	
IMDG Code	International Maritime Dangerous Goods Code.	
ICAO	International Civil Aviation Organization.	
ΙΑΤΑ	International Air Transport Association.	
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.	
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No.1272/2008].	
SCBA	Self-Contained Breathing Apparatus.	
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006].	
LC 50	Median lethal concentration.	
LD 50	Median lethal dose.	
PBT	Persistent, Bio accumulative and Toxic.	

 $\begin{array}{c} \mbox{Regulation}\,(EC)\,\mbox{no}\,1907/2006,\mbox{Annex}\,\,II\,\mbox{as Amended by Commission}\,\mbox{Regulation}\,(EU)\\ 2015/830 \end{array}$

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Mixture		
ARKO Gear Oil SP 220		
Industrial Gear Box Oil		

Industrial		
Industrial		
Industrial		
Industrial		
Health	1	
Flammability	1	
Reactivity	0	
Special	-	
redients		
	or blended product	
	ture of hydro-treated hydrocarbons.	
Remove to fresh air & prov	vide oxygen, if breathing is difficult. Contact physician	
Remove contaminated clothing. Flush skin with water. Wash skin thoroughly		
	irritation occurs, call a physician.	
Do not induce vomiting. In	1 general no treatment is necessary unless large	
quantities are ingested. Get	t medical advice.	
Rinse continuously with water for several minutes. Get medical attention, if		
irritation persists.		
-	upply. Ensure adequate ventilation and check that a	
safe and breathing area is a	vailable before entry into confined spaces.	
	bon dioxide. Do not use direct water and wet	
	burning product. They may spread the fire. Use	
	Surrace.	
	surised containers may rupture and when exposed	
to heat, creating a highly f	lammable vapour cloud.	
	likely to give rise to a complex mixture of airborne	
	s, gases, including carbon monoxide, H ₂ S, SO _x ric acid and unidentified organic and inorganic	
	ne acta and undentified organic alle morganic	
- stip o uluo.		
Promptly isolate the scene	by removing all persons from the vicinity of the	
incident if there is a fire. N	oaction shall be taken involving any personal risk or	
	Industrial Gear Box Oil Industrial Oil **** Industrial Intervet Remove to fresh air & prove Remove contaminated clot with mild soap & water.If Do not induce vomiting. I	

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Firefighters should wear appropriate protective equipment and self-contained
breathing apparatus (SCBA) with a full face- piece operated in positive pressure
mode. Clothing for firefighters (including helmets, protective boots and gloves)
conforming to European standard EN 469 will provide a basic level of
protection for chemical incidents.

Section 6: Accidental Release Measure	s
6.1 Personal precautions, protective ec	
	Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the
For non-emergency personnel	 emergency. Stop leak if safe to do so. Avoid direct contact with the product. Stay upwind / keep distance from source. In case of large spillages, alert occupants in downwind areas. Eliminate all ignition sources if safe to do so. Spillages of limited amounts of product, especially in the open air when vapours will be usually quickly dispersed, are dynamic situations, which will presumably limit the exposure to dangerous concentrations. Note : Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave / current direction and speed) may significantly influence the choice of appropriate actions.
For emergency responders	For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken. Small spillages: Normal antistatic working clothes are usually adequate. Large spillages: Full body suit of chemically resistant and thermal resistant material should be used. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons.
	Note: Gloves made of PVA are not water-resistant, and are not suitable for emergency use. Safety helmet, antistatic non-skid safety shoes or boots. Goggles and / or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory Protection : A half or full-face respirator with filter(s) for organic vapours (and when applicable for H ₂ S) a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.
	Prevent product from entering sewers, rivers or other bodies of water. If necessary dike the product with dry earth, sand or similar non-combustible materials. In case of soil contamination, remove contaminated soil and treat in
6.2 Environmental precautions	 accordance with local regulations. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities.
6.3 Methods and material for containing	nent and cleaning up
Small spill	Stop leak if without risk. Absorb spilled product with suitable non-combustible materials.
Large spill	Large spillages may be cautiously covered with foam, if available, to limit vapou cloud formation. Do notuse water jet. When inside buildings or confined spaces, ensure adequate ventilation. Transfer collected product and other contaminated

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	materials to suitable containers for recovery or safe disposal.
6.4 Reference to other sections	See Section 1: For emergency contact information. See Section 8: For information on appropriate personal protective equipment.See Section 13: For additional waste treatment information.
Section 7: Handling and Storage	
7.1 Advice on general information – hygiene, storage	Obtain special instructions before use. Keep away from heat / sparks / open flames/hot surfaces. No smoking. Use and store only outdoors or in a well-ventilated area. Hazard of slipping on spilt product. Avoid release to the environment.
7.2 Conditions for safe storage including any incompatibilities	Storage area layout, tank design, equipment and operating procedures must comply with the relevant regional, national or local legislation. Storage installations should be designed with adequate bunds incase of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Store separately from oxidising agents. Keep only in the original container or in a suitable container for this kind of
	product. Keep container tightly closed and sealed until ready for use. Do not store in unlabelled containers. Containers that havebeen opened must be carefully resealed and kept upright to prevent leakage. Empty containers may contain harmful, flammable / combustible or explosive residue or vapours. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards. Protect from sunlight.
7.3 Specific end use(s) – Recommendations	Not available
Section 8: Exposure Controls / Personal Pro	
Exposure Scenario(s).	ild be consulted for any available use-specific information provided in the
8.1 Control parameters	
Occupational exposure limits	
Product / Ingredient name	Distillates, mixture of hydrocarbons
Exposure limits values	AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes.Form: mist and fume [Air contaminant]. AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes.Form: mist and fume.
Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres – Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents)European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents formethods for the determination of hazardous substances will also be

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8.2 Exposure control Appropriate engineering controls	Mechanical ventilation and local exhaust will reduce exposure via the air. Use oil resistant material in construction of handling equipment. Store under recommended conditions and if heated, temperature control equipment should be used to avoid overheating.	
Individual protection measures		
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before reuse.	
Eye / face protection	Recommended: Safety glasses with side shields.	
Skin protection		
Hand protection	4 – 8 hours (breakthrough time): nitrile rubber.	
Body protection	Wear protective clothing if there is a risk of skin contact. Change contaminated clothes at the end of working shift.	
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.	
Respiratory protection	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.	
Environmental exposure control	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.	
Section 9: Physical and Chemical Properti	es	
Appearance	Clear	
Physical state	Liquid	
Colour	Brownish	
Odor	Petroleum odor	
Odour threshold	Not available	
рН	Not applicable	
Pour point	< -6 °C (ASTM D 97)	
Flash point	> 230 °C	
Evaporation rate	Not available	
Flammability (solid, gas)	Not available	
Flammability limits in air (lower), % by volume	Not available	
Flammability limits in air (upper), % by volume	Not available	
Vapour pressure	≤ 0,1 hPa (20 °C) (Mineral oil, ASTM D 5191) (CONCAWE, 2010)	
Density Solubility (ies)	0.88 max at 15 °C	
Solubility (water)	Insoluble in water	
Partition coefficient (n-octanol/water)	Not available	
Decomposition temperature	No data	
Auto-ignition temperature	>300 °C	
Kinematic viscosity at 40 °C (104 °F)	220 cSt (ASTM D 445) (Typical Value)	
Explosive properties	No data	
Oxidising properties	No data	
Orthoming properties		

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DMSO extractable comp	ounds for base oi	l Not available	e		
substance(s)according to		<3 %	-		
Section 10: Stability and	Reactivity				
10.1 Reactivity		No specific t ingredients.	est data related to react	ivity available for this p	roduct or its
10.2 Chemical stability		Stable under	r normal conditions		
10.3 Possibility of hazard	ous reactions	Under norma	al conditions of storage	and use, hazardous rea	ctions will not occur.
		Oxidising ag	gent.		
10.4 Conditions to avoid			from extreme heat and		
10.5 Incompatible materi	als			give rise to a complex n	
10.6 Hazardous decompo	osition products	H ₂ S, SO _x (su		s, gases, including carb uric acid andunidentific	
SECTION 11: Toxicologi	cal Information				
11.1 Information on toxic	cological effects				
Acute toxicity					
Product / ingredient name	Resu	lt	Species	Dose	Exposure
Distillate	LC 50 Inhalat and mi		Rat	>2.18mg/l	4 hours
(Petroleum), hydro treated heavy	LD 50 De	ermal	Rabbit	> 5000	—
paraffinic	LD 500)1	D.4	mg/kg	
	LD 50 (Drai	Rat	>15000 mg/kg	-
Irritation / corrosion				IIIB, KB	
Skin					
Eye		No known si	gnificant effects or crit	ical hazards.	
Respiratory					
Sensation					
Skin		No known si	gnificant effects or crit	ical hazards.	
Respiratory			-		
Mutagenicity			ilable to indicate produ 0.1 % aremultigene o	ct or any components p r genotoxic.	present
Carcinogenicity			· · · · · · · · · · · · · · · · · · ·	sed on an severely hydro	treated distillate.
Reproductive toxicity		-	should not be regarded		
		as toxic to re	Contains no ingredient	Insted	
Specific target organ toxic exposure	city – single	Not classifie	•		
Specific target organ toxic	ity – repeated				
exposure	• · · · · · · · ·				
Aspiration hazard			nazard – Category 1		
Information on likely route	1	Not available	e		
Potential acute health effec	cts			· · · ·	
Eye contact			may cause redness and	1	ou oouco magninat
Inhalation		irritation.	-	elevated temperatures m	ay cause respiratory
Skin contact			gnificant effects or crit		
Ingestion	°°4-	May be fatal	if swallowed and enter	s airways.	
Potential chronic health ef	iects	No known -	anificant offects or and	ical hazarda	
General		μνο known si	gnificant effects or criti	ical nazafus.	

The base oil(s) in this product is based on an severely hydrotreated distillate. The
product should not beregarded as a carcinogen.

Mutagenicity	No known significant effects or critical hazards.	
Teratogenicity		
Product / ingredient name		
Fertility effects		
Other information Specific hazard	Not available	
Section 12: Ecological Information		
12.1 Toxicity	Not expected to be harmful to aquatic organisms.	
12.2 Persistence and degradability	Not inherently biodegradable.	
12.3 Bioaccumulative potential	Bioaccumulation is unlikely to be significant because of the low water solubility	
	of this product.	
12.4 Mobility in soil	Not considered mobile.	
12.5 Results of PBT & vPvB assessment	Not applicable	
12.6 Other adverse effects	Insoluble in water. Spills may form a film on water surfaces causing physical	
	damage to organisms. Oxygen transfer could also be impaired.	
Section 13: Disposal Considerations		

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

Product Methods of disposal	Where possible (e.g. in the absence of relevant contamination), recycling of used substance is feasible and recommended. This substance can be burned
roduct methods of disposal	or incinerated, subject to national/local authorisations, relevant contamination limits, safety regulations and air quality
	legislation. Contaminated or waste substance (not directly recyclable): Disposal can be carried out directly, or by delivery to qualified waste handlers. National
	legislation may identify a specific organisation, and/or prescribe composition limits and methods for recovery or disposal
Hazardous waste	Yes
European waste catalogue (EWC) Waste Code 13 03 07*	Waste designation.
Packaging	Mineral-based non-chlorinated insulating and heat transmission oils.
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste packaging should berecycled. Incineration or landfill should only be considered when recycling is not feasible.

Section 14: Transport Information

international transport regula				
	ADR / RID	ADN	IMO / IMDG Classification	ICAO / IATA Classification
14.1 UN number	Not regulated	Not regulated	Not regulated	Not regulated
14.2 UN proper shipping name	_	_	_	_
14.3 Transport hazard class(es)	—	—	—	_
14.4 Packing group	—	—	—	—
14.5 Environmental hazards	No	No	No	No
Additional Information	_	—	—	—
14.6 Special precautions for us	er oils			
14.7 Transport in bulk accordi	ing to Annex I of MARP	OL 73/78 and the IBC C	ode	
Section 15: Regulatory Inform	ation			

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture EU Regulation (EC) No.

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	Salety Data-Sileet		
1907/2006 (REACH)			
Annex XIV – List of substances subject to authorisation Annex XIV Substances of very high concern	None of the components are listed		
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.	Not applicable		
International Lists National Inventory	Inventory name		
Australia	Australian Inventory of Chemical Substances (AICS) – Yes		
Canada	Domestic Substances List (DSL) – Yes Non-Domestic Substances List (NDSL) – No		
China	Inventory of Existing Chemical Substances in China (IECSC) – Yes		
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS) – Yes		
	European List of Notified Chemical Substances (ELINCS) – No		
Japan	Inventory of Existing and New Chemical Substances (ENCS) – Yes		
Korea	Existing Chemicals List (ECL) – Yes		
New Zealand	New Zealand Inventory – Yes		
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS) – Yes		
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory – Yes		
governing country(s)	this product comply with the inventory requirements administered by the ents of the product are not listed or exempt from listing on the inventory		
Revision comments			
Legend to abbreviations			
ADR	European agreement concerning the international carriage of dangerous good by road.		
RID	Regulations agreement concerning the international carriage of dangerous good by rail.		
IMDG Code	International Maritime Dangerous Goods Code.		
ICAO	International Civil Aviation Organization.		
ΙΑΤΑ	International Air Transport Association.		
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.		
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No.1272/2008].		
SCBA	Self-Contained Breathing Apparatus.		
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulation[Regulation (EC) No. 1907/2006].		
LC 50	Median lethal concentration.		
LD 50	Median lethal dose.		
PBT	Persistent, Bio accumulative and Toxic.		

 $\begin{array}{c} \mbox{Regulation}\,(EC)\,\mbox{no}\,1907/2006,\mbox{Annex}\,\,II\,\mbox{as}\,\,Amended\,\,\mbox{by}\,\,Commission}\,\,Regulation\,(EU)\\ 2015/830 \end{array}$

Disclaimer: Information contained in this material data sheet is believed to be reliable, but no representation, guarantee or warranties of any kind made as to its accuracy, suitability for a particular application or results to be obtained from them. It is up to the manufacturer / seller to ensure that the information content in the material data sheet is relevant to the product manufactured / handled or sold by, as the case may be. R K PETROLEUMS makes no warranties expressed or implied in respect of the adequacyof this document for any particular purpose.

Section 1: Identification of the Substance / M	lixture		
1.1 Product identifier			
Product name	ARKO Gear Oil SP 320		
Product description	Industrial Gear Box Oil		
Product type	Industrial Oil		
MARPOL Annex-1	****		
1.2 Identified uses			
Distribution of substance	Industrial		
Formulation & (re)packing of substance & mixtures	Industrial		
Manufacture of substance	Industrial		
Functional fluids	Industrial		
Section 2: Hazard Identification			
4-	Health	1	
Extrem	Flammability	1	
e3-	Reactivity	0	
	Special		
High 2-Moderate			
1-Slight			
Section 3: Composition / Information on Ing	redients		
	CAS No.: Not applicable for	or blended product	
Product / Ingredient name		ture of hydro-treated hydrocarbons.	
Section 4: First Aid Measures			
Inhalation exposure	Remove to fresh air & prov	vide oxygen, if breathing is difficult. Contact physician	
Skin contact	Remove contaminated clothing. Flush skin with water. Wash skin thoroughly with mild soap & water. If irritation occurs, call a physician.		
Swallowing or other	Do not induce vomiting. In general no treatment is necessary unless large quantities are ingested. Get medical advice.		
Eye contact	Rinse continuously with water for several minutes. Get medical attention, if		
Protection first-aiders	irritation persists. Disconnecting electrical supply. Ensure adequate ventilation and check that a safe and breathing area is available before entry into confined spaces.		
Section 5: Fire Fighting Measures	sure and breathing area isa	vanable before entry into commet spaces.	
5.1 Extinguishing media			
Unsuitable extinguishing media	Use dry powder, foam, carbon dioxide. Do not use direct water and wet chemicals, or water on the burning product. They may spread the fire. Use foam simultaneously on the surface.		
5.2 Special hazards arising from the substan			
Hazards from the substance or mixture	Flammable liquids in pressurised containers may rupture and when exposed to heat, creating a highly flammable vapour cloud.		
Hazardous thermal decomposition products	Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide, H_2S , SO_x (sulphur oxides) or sulphuric acid and unidentified organic and inorganic compounds.		
5.3 Advice for firefighters			
Special precautions for firefighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Noaction shall be taken involving any personal risk or without suitable training.		

	Firefighters should wear appropriate protective equipment and self-contained		
	rs breathing apparatus (SCBA) with a full face- piece operated in positive pressure		
	node. Clothing for firefighters (including helmets, protective boots and gloves)		
	conforming to European standard EN 469 will provide a basic level of		
	protection for chemical incidents.		

Section 6: Accidental Release Measures				
6.1 Personal precautions, protective equ				
Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibili any actions should always be assessed and advised, if possible, by a train competent person in charge of managing the				
For non-emergency personnel	 emergency. Stop leak if safe to do so. Avoid direct contact with the product. Stay upwind / keep distance from source. In case of large spillages, alert occupants in downwind areas. Eliminate all ignition sources if safe to do so. Spillages of limited amounts of product, especially in the open air when vapours will be usually quickly dispersed, are dynamic situations, which will presumably limit the exposure to dangerous concentrations. Note : Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave / current direction and speed) may significantly influence the choice of appropriate actions. 			
For emergency responders	For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken. Small spillages: Normal antistatic working clothes are usually adequate. Large spillages: Full body suit of chemically resistant and thermal resistant material should be used. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons. Note: Gloves made of PVA are not water-resistant, and are not suitable for			
	emergency use. Safety helmet, antistatic non-skid safety shoes or boots. Goggles and / or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory Protection : A half or full-face respirator with filter(s) for organic vapours (and when applicable for H ₂ S) a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.			
	Prevent product from entering sewers, rivers or other bodies of water. If necessary dike the product with dry earth, sand or similar non-combustible materials. In case of soil contamination, remove contaminated soil and treat in			
6.2 Environmental precautions	 In case of soil contamination, remove contaminated soil and treat in accordance with local regulations. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities. 			
6.3 Methods and material for containm				
Small spill	Stop leak if without risk. Absorb spilled product with suitable non-combustible materials.			
Large spill	Large spillages may be cautiously covered with foam, if available, to limit vapour cloud formation. Do notuse water jet. When inside buildings or confined spaces, ensure adequate ventilation. Transfer collected product and other contaminated			

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	materials to suitable containers for recovery or safe disposal.		
6.4 Reference to other sections	See Section 1: For emergency contact information. See Section 8: For information on appropriate personal protective equipment. See Section 13: For additional waste treatment information.		
Section 7: Handling and Storage			
7.1 Advice on general information – hygiene, storage	Obtain special instructions before use. Keep away from heat / sparks / open flames/hot surfaces. No smoking. Use and store only outdoors or in a well-ventilated area. Hazard of slipping on spilt product. Avoid release to the environment.		
7.2 Conditions for safe storage including any incompatibilities	Storage area layout, tank design, equipment and operating procedures must comply with the relevant regional, national or local legislation. Storage installations should be designed with adequate bunds incase of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Store separately from oxidising agents.		
	Keep only in the original container or in a suitable container for this kind of product. Keep container tightly closed and sealed until ready for use. Do not store in unlabelled containers. Containers that havebeen opened must be carefully resealed and kept upright to prevent leakage. Empty containers may contain harmful, flammable / combustible or explosive residue or vapours. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards. Protect from sunlight.		
7.3 Specific end use(s) – Recommendations	Not available		
Section 8: Exposure Controls / Personal Pro			
	Id be consulted for any available use-specific information provided in the		
Exposure Scenario(s). 8.1 Control parameters			
Occupational exposure limits			
Product / Ingredient name	Distillates, mixture of hydrocarbons		
Exposure limits values	AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes. Form: mist and fume [Air contaminant]. AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes. Form: mist and fume.		
Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres – Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents)European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents formethods for the determination of hazardous substances will also be required.		

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8.2 Exposure control Appropriate engineering controls	controls Mechanical ventilation and local exhaust will reduce exposure via the air. Us oil resistant material in construction of handling equipment. Store under recommended conditions and if heated, temperature control equipment should be used to avoid overheating.		
Individual protection measures			
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before reuse.		
Eye / face protection	Recommended: Safety glasses with side shields.		
Skin protection			
Hand protection	4 – 8 hours (breakthrough time): nitrile rubber.		
Body protection	Wear protective clothing if there is a risk of skin contact. Change contaminated clothes at the end of working shift.		
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.		
Respiratory protection	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, particulate filter respirator complying with an approved standard in a risk assessment indicates this is necessary.		
Environmental exposure control	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.		
Section 9: Physical and Chemical Properti	ies		
Appearance	Clear		
Physical state	Liquid		
Colour	Brownish		
Odor	Petroleum odor		
Odour threshold	Not available		
рН	Not applicable		
Pour point	< -6 °C (ASTM D 97)		
Flash point	> 240 °C		
Evaporation rate	Not available		
Flammability (solid, gas)	Not available		
Flammability limits in air (lower), % by volume	Not available		
Flammability limits in air (upper), % by volume	Not available		
Vapour pressure	\leq 0,1 hPa (20 °C) (Mineral oil, ASTM D 5191) (CONCAWE, 2010)		
Density Solubility (ies)	ensity Solubility (ies) 0.88 max at 15 °C		
Solubility (water) Insoluble in water			
Partition coefficient (n-octanol/water)	Not available		
Decomposition temperature	No data		
Auto-ignition temperature	>300 °C		
Kinematic viscosity at 40 °C (104 °F)	320 cSt (ASTM D 445) (Typical Value)		
Explosive properties No data			
Oxidising properties	No data		

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DMSO extractable comp	ounds for base oi	l Not available	e			
substance(s)according to IP346 <3 %						
Section 10: Stability and Reactivity						
10.1 Reactivity		No specific t ingredients.	No specific test data related to reactivity available for this product or its			
10.2 Chemical stability		Stable under	r normal conditions			
10.3 Possibility of hazard	ous reactions	Under norma	al conditions of storage	and use, hazardous rea	ctions will not occur.	
		Oxidising ag	gent.			
10.4 Conditions to avoid			from extreme heat and			
10.5 Incompatible materi	als			give rise to a complex n		
10.6 Hazardous decompo	osition products	H_2S , SO_x (su	airborne solid and liquid particulates, gases, including carbon monoxide, H_2S , SO_x (sulphur oxides) or sulphuric acid and unidentified organic and inorganic compounds.			
SECTION 11: Toxicologi	cal Information					
11.1 Information on toxic	cological effects					
Acute toxicity						
Product / ingredient name	Resu	lt	Species	Dose	Exposure	
Distillate	LC 50 Inhalat and mi		Rat	>2.18mg/l	4 hours	
(Petroleum), hydro treated heavy	LD 50 De	ermal	Rabbit	> 5000	—	
paraffinic	LD 500)1	D.4	mg/kg		
	LD 50 (Drai	Rat	>15000 mg/kg	-	
Irritation / corrosion				IIIB, KB		
Skin						
Eye		No known si	gnificant effects or crit	ical hazards.		
Respiratory						
Sensation						
Skin		No known si	To known significant effects or critical hazards.			
Respiratory			-			
Mutagenicity		No data available to indicate product or any components present greater than 0.1 % are multigene or genotoxic.				
Carcinogenicity		The base oil(s) in this product is based on an severely hydrotreated distillate.				
Reproductive toxicity		The product should not be regarded as a				
		carcinogen. Contains no ingredient listed as toxic to reproduction.				
Specific target organ toxicity – single exposure		Not classified				
Specific target organ toxic	ity – repeated					
exposure						
Aspiration hazard		Aspiration hazard – Category 1				
Information on likely routes of exposure		Not available				
Potential acute health effects						
Eye contact		may cause redness and	1	ou oouco magninat		
Inhalation	irritation.				ay cause respiratory	
Skin contact	No known significant effects or critical hazards.					
Ingestion	°°4-	May be fatal	if swallowed and enter	s airways.		
Potential chronic health ef	iects	No known -	anificant offects or and	ical hazarda		
General	General No known significant effects or critical hazards.					

Carcinogenicity	The base oil(s) in this product is based on an severely hydrotreated distillate. The
	product should not beregarded as a carcinogen.

Mutagenicity			
Teratogenicity			
Product / ingredient name	No known significant effects or critical hazards.		
Fertility effects			
Other information Specific hazard	Not available		
Section 12: Ecological Information			
12.1 Toxicity	Not expected to be harmful to aquatic organisms.		
12.2 Persistence and degradability	Not inherently biodegradable.		
12.3 Bioaccumulative potential	Bioaccumulation is unlikely to be significant because of the low water solubility		
	of this product.		
12.4 Mobility in soil	Not considered mobile.		
12.5 Results of PBT & vPvB assessment	Not applicable		
12.6 Other adverse effects	Insoluble in water. Spills may form a film on water surfaces causing physical		
	damage to organisms. Oxygen transfer could also be impaired.		
Section 13: Disposal Considerations			

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

Product Methods of disposal	Where possible (e.g. in the absence of relevant contamination), recycling of used substance is feasible and recommended. This substance can be burned or incinerated, subject to national/local authorisations, relevant contamination limits, safety regulations and air quality legislation. Contaminated or waste substance (not directly recyclable): Disposal can be carried out directly, or by delivery to qualified waste handlers. National legislation may identify a specific organisation, and/or prescribe composition limits and methods for recovery or disposal
Hazardous waste	Yes
European waste catalogue (EWC) Waste Code 13 03 07*	Waste designation.
Packaging	Mineral-based non-chlorinated insulating and heat transmission oils.
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste packaging should berecycled. Incineration or landfill should only be considered when recycling is not feasible.

Section 14: Transport Information International transport regulations

International transport regulations					
	ADR / RID	ADN	IMO / IMDG Classification	ICAO / IATA Classification	
14.1 UN number	Not regulated	Not regulated	Not regulated	Not regulated	
14.2 UN proper shipping name	—	_	_	—	
14.3 Transport hazard class(es)	—	_	_	_	
14.4 Packing group	_	—	—	—	
14.5 Environmental hazards	No	No	No	No	
Additional Information	—	—	—	—	
14.6 Special precautions for user oils					
14.7 Transport in bulk according to Annex I of MARPOL 73/78 and the IBC Code					
Section 15: Regulatory Information					

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture EU Regulation (EC) No.

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1907/2006 (REACH)			
Annex XIV – List of substances subject to authorisation Annex XIV Substances of very high concern	None of the components are listed		
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.	Not applicable		
International Lists National Inventory	Inventory name		
Australia	Australian Inventory of Chemical Substances (AICS) – Yes		
Canada	Domestic Substances List (DSL) – Yes Non-Domestic Substances List (NDSL) – No		
China	Inventory of Existing Chemical Substances in China (IECSC) – Yes		
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS) – Yes		
	European List of Notified Chemical Substances (ELINCS) – No		
Japan	Inventory of Existing and New Chemical Substances (ENCS) – Yes		
Korea	Existing Chemicals List (ECL) – Yes		
New Zealand	New Zealand Inventory – Yes		
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS) – Yes		
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory – Yes		
governing country(s)	this product comply with the inventory requirements administered by the ents of the product are not listed or exempt from listing on the inventory		
Revision comments			
Legend to abbreviations			
ADR	European agreement concerning the international carriage of dangerous good by road.		
RID	Regulations agreement concerning the international carriage of dangerous good by rail.		
IMDG Code	International Maritime Dangerous Goods Code.		
ICAO	International Civil Aviation Organization.		
ΙΑΤΑ	International Air Transport Association.		
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.		
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No.1272/2008].		
SCBA	Self-Contained Breathing Apparatus.		
REACH Registration, Evaluation, Authorization and Restriction of Chemicals Regulation (EC) No. 1907/2006].			
LC 50	Median lethal concentration.		
LD 50	Median lethal dose.		
PBT Persistent, Bio accumulative and Toxic.			

 $\begin{array}{c} \mbox{Regulation}\,(EC)\,\mbox{no}\,1907/2006,\mbox{Annex}\,\,II\,\mbox{as Amended by Commission}\,\mbox{Regulation}\,(EU)\\ 2015/830 \end{array}$

ARKO Gear Oil SP 460

Section 1: Identification of the Substance / M	Aixture			
1.1 Product identifier				
Product name	ARKO Gear Oil SP 460			
Product description	Industrial Gear Box Oil			
Product type	Industrial Oil			
MARPOL Annex-1	****			
1.2 Identified uses				
Distribution of substance	Industrial			
Formulation & (re)packing of substance & mixtures	Industrial			
Manufacture of substance	Industrial			
Functional fluids	Industrial			
Section 2: Hazard Identification				
4-	Health	1		
Extrem	Flammability	1		
e3-	Reactivity	0		
	Special	_		
High 2-Moderate	7			
1-Slight				
Section 3: Composition / Information on Ing	redients			
	CAS No.: Not applicable for	or blanded product		
Product / Ingredient name		ture of hydro-treated hydrocarbons.		
Section 4: First Aid Measures				
Inhalation exposure	Remove to fresh air & prov	vide oxygen, if breathing is difficult. Contact physician		
Skin contact		hing. Flush skin with water. Wash skin thoroughly		
Skill contact		irritation occurs, call a physician.		
Swallowing or other	Do not induce vomiting. In general no treatment is necessary unless large quantities are ingested. Get medical advice.			
Eye contact	Rinse continuously with water for several minutes. Get medical attention, if irritation persists.			
Protection first-aiders	Disconnecting electrical supply. Ensure adequate ventilation and check that a safe and breathing area is available before entry into confined spaces.			
Section 5: Fire Fighting Measures				
5.1 Extinguishing media				
Unsuitable extinguishing media	Use dry powder, foam, carbon dioxide. Do not use direct water and wet chemicals, or water on the burning product. They may spread the fire. Use foam simultaneously on the surface.			
5.2 Special hazards arising from the substan				
Hazards from the substance or mixture	Flammable liquids in pressurised containers may rupture and when exposed to heat, creating a highly flammable vapour cloud.			
Hazardous thermal decomposition products	Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide, H_2S , SO_x (sulphur oxides) or sulphuric acid and unidentified organic and inorganic compounds.			
5.3 Advice for firefighters				
Special precautions for firefighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Noaction shall be taken involving any personal risk or without suitable training.			

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	Firefighters should wear appropriate protective equipment and self-contained
Special protective equipment for firefighters	breathing apparatus (SCBA) with a full face- piece operated in positive pressure
	mode. Clothing for firefighters (including helmets, protective boots and gloves)
	conforming to European standard EN 469 will provide a basic level of
	protection for chemical incidents.

Section 6: Accidental Release Measur	es
6.1 Personal precautions, protective e	
	Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the
For non-emergency personnel	 emergency. Stop leak if safe to do so. Avoid direct contact with the product. Stay upwind / keep distance from source. In case of large spillages, alert occupants in downwind areas. Eliminate all ignition sources if safe to do so. Spillages of limited amounts of product, especially in the open air when vapours will be usually quickly dispersed, are dynamic situations, which will presumably limit the exposure to dangerous concentrations. Note : Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave / current direction and speed) may significantly influence the choice of appropriate actions.
For emergency responders	For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken. Small spillages: Normal antistatic working clothes are usually adequate. Large spillages: Full body suit of chemically resistant and thermal resistant material should be used. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons. Note: Gloves made of PVA are not water-resistant, and are not suitable for
	emergency use. Safety helmet, antistatic non-skid safety shoes or boots. Goggles and / or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory Protection : A half or full-face respirator with filter(s) for organic vapours (and when applicable for H ₂ S) a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.
	Prevent product from entering sewers, rivers or other bodies of water. If necessary dike the product with dry earth, sand or similar non-combustible materials. In case of soil contamination, remove contaminated soil and treat in
6.2 Environmental precautions	 accordance with local regulations. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities.
6.3 Methods and material for contain	ment and cleaning up
Small spill	Stop leak if without risk. Absorb spilled product with suitable non-combustible materials.
Large spill	Large spillages may be cautiously covered with foam, if available, to limit vapou cloud formation. Do notuse water jet. When inside buildings or confined spaces, ensure adequate ventilation. Transfer collected product and other contaminated

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	materials to suitable containers for recovery or safe disposal.
6.4 Reference to other sections	See Section 1: For emergency contact information. See Section 8: For information on appropriate personal protective equipment. See Section 13: For additional waste treatment information.
Section 7: Handling and Storage	
7.1 Advice on general information – hygiene, storage	Obtain special instructions before use. Keep away from heat / sparks / open flames/hot surfaces. No smoking. Use and store only outdoors or in a well-ventilated area. Hazard of slipping on spilt product. Avoid release to the environment.
7.2 Conditions for safe storage including any incompatibilities	Storage area layout, tank design, equipment and operating procedures must comply with the relevant regional, national or local legislation. Storage installations should be designed with adequate bunds incase of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Store separately from oxidising agents. Keep only in the original container or in a suitable container for this kind of product. Keep container tightly closed and sealed until ready for use. Do not store in unlabelled containers. Containers that havebeen opened must be carefully resealed and kept upright to prevent leakage. Empty containers may contain harmful, flammable / combustible or explosive residue or vapours. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards.
7.3 Specific end use(s) – Recommendations	Protect from sunlight. Not available
Section 8: Exposure Controls / Personal Pro	otection
The list of Identified Uses in Section 1 shou	ald be consulted for any available use-specific information provided in the
Exposure Scenario(s).	
8.1 Control parameters	
Occupational exposure limits	Distillates, mixture of hydrocarbons
Product / Ingredient name Exposure limits values	AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes.Form: mist and fume [Air contaminant]. AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes.Form: mist and fume.
Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres – Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents)European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

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8.2 Exposure control Appropriate engineering controls	Mechanical ventilation and local exhaust will reduce exposure via the air. Use oil resistant material in construction of handling equipment. Store under recommended conditions and if heated, temperature control equipment should be used to avoid overheating.		
Individual protection measures			
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before reuse.		
Eye / face protection	Recommended: Safety glasses with side shields.		
Skin protection			
Hand protection	4 – 8 hours (breakthrough time): nitrile rubber.		
Body protection	Wear protective clothing if there is a risk of skin contact. Change contaminated clothes at the end of working shift.		
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.		
Respiratory protection	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.		
Environmental exposure control	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.		
Section 9: Physical and Chemical Properti			
Appearance	Clear		
Physical state	Liquid		
Colour	Brownish		
Odor	Petroleum odor		
Odour threshold	Not available		
рН	Not applicable		
Pour point	<-9 °C (ASTM D 97)		
Flash point	> 245 °C		
Evaporation rate	Not available		
Flammability (solid, gas)	Not available		
Flammability limits in air (lower), % by volume	Not available		
Flammability limits in air (upper), % by volume	Not available		
Vapour pressure	≤ 0,1 hPa (20 °C) (Mineral oil, ASTM D 5191) (CONCAWE, 2010)		
Density Solubility (ies)	0.88 max at 15 °C		
Solubility (water) Insoluble in water			
Partition coefficient (n-octanol/water)	Not available		
Decomposition temperature	No data		
Auto-ignition temperature	>300 °C		
Kinematic viscosity at 40 °C (104 °F)	460 cSt (ASTM D 445) (Typical Value)		
Explosive properties	No data		
Oxidising properties	No data		

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DMSO extractable compounds for base oil Not available					
substance(s)according to		<3 %	-		
Section 10: Stability and Reactivity					
10.1 Reactivity		No specific test data related to reactivity available for this product or its ingredients.			
10.2 Chemical stability		Stable under	r normal conditions		
10.3 Possibility of hazard	ous reactions	Under norma	al conditions of storage	and use, hazardous rea	ctions will not occur.
		Oxidising ag	gent.		
10.4 Conditions to avoid			from extreme heat and		
10.5 Incompatible materi	als			give rise to a complex n	
10.6 Hazardous decompo	osition products	airborne solid and liquid particulates, gases, including carbon monoxide, H_2S , SO_x (sulphur oxides) or sulphuric acid and unidentified organic and inorganic compounds.			
SECTION 11: Toxicologi	cal Information				
11.1 Information on toxic	cological effects				
Acute toxicity					
Product / ingredient name	Resu	lt	Species	Dose	Exposure
Distillate	LC 50 Inhalat and mi		Rat	>2.18mg/l	4 hours
(Petroleum), hydro treated heavy	LD 50 De	ermal	Rabbit	> 5000	—
paraffinic	LD 500)1	D.4	mg/kg	
	LD 50 (Drai	Rat	>15000 mg/kg	-
Irritation / corrosion				IIIB, KB	
Skin					
			gnificant effects or crit	ical hazards.	
Respiratory					
Sensation					
Skin		No known significant effects or critical hazards.			
Respiratory					
Mutagenicity		No data available to indicate product or any components present greater than 0.1 % aremultigene or genotoxic.			
Carcinogenicity		The base oil(s) in this product is based on an severely hydrotreated distillate.			
Reproductive toxicity		The product should not be regarded as a			
		carcinogen. Contains no ingredient listed as toxic to reproduction.			
Specific target organ toxic exposure	city – single	Not classified			
Specific target organ toxic	ity – repeated				
exposure					
Aspiration hazard		Aspiration hazard – Category 1			
Information on likely routes of exposure		Not available			
Potential acute health effects					
•			may cause redness and	1	ou oouco magninat
Inhalation Inhalation of oil mist or vapours at elevated temperatures may cause respiratory irritation.			ay cause respiratory		
Skin contact		No known significant effects or critical hazards.			
Ingestion	°°4-	May be fatal	if swallowed and enter	s airways.	
Potential chronic health ef General	iects	No known -	anificant offects or and	ical hazarda	
General No known significant effects or critical hazards.					

Carcinogenicity	The base oil(s) in this product is based on an severely hydrotreated distillate. The		
	product should not beregarded as a carcinogen.		

Mutagenicity			
Teratogenicity			
Product / ingredient name	No known significant effects or critical hazards.		
Fertility effects			
Other information Specific hazard	Not available		
Section 12: Ecological Information			
12.1 Toxicity	Not expected to be harmful to aquatic organisms.		
12.2 Persistence and degradability	Not inherently biodegradable.		
12.3 Bioaccumulative potential	Bioaccumulation is unlikely to be significant because of the low water solubility		
	of this product.		
12.4 Mobility in soil	Not considered mobile.		
12.5 Results of PBT & vPvB assessment	Not applicable		
12.6 Other adverse effects	Insoluble in water. Spills may form a film on water surfaces causing physical		
damage to organisms. Oxygen transfer could also be impaired.			
Section 13: Disposal Considerations			

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

	Where possible (e.g. in the absence of relevant contamination), recycling of		
	used substance is feasible and recommended. This substance can be burned		
Product Methods of disposal	or incinerated, subject to national/local		
	authorisations, relevant contamination limits, safety regulations and air quality		
	legislation. Contaminated or waste substance (not directly recyclable): Disposal		
	can be carried out directly, or by delivery to qualified waste handlers. National		
	legislation may identify a specific organisation, and/or prescribe composition		
	limits and methods for recovery or disposal		
Hazardous waste	Yes		
European waste catalogue (EWC) Waste	Waste designation.		
Code 13 03 07*			
Packaging	Mineral-based non-chlorinated insulating and heat transmission oils.		
Methods of disposal	The generation of waste should be avoided or minimised wherever possible.		
	Waste packaging should berecycled. Incineration or landfill should only be		
	considered when recycling is not feasible.		

Section 14: Transport Information

international transport regulations					
	ADR / RID	ADN	IMO / IMDG Classification	ICAO / IATA Classification	
14.1 UN number	Not regulated	Not regulated	Not regulated	Not regulated	
14.2 UN proper shipping name	_	_	_	_	
14.3 Transport hazard class(es)	—	—	—	_	
14.4 Packing group	—	—	—	—	
14.5 Environmental hazards	tal hazards No No No No				
Additional Information	Additional Information — — — — — —				
14.6 Special precautions for user oils					
14.7 Transport in bulk according to Annex I of MARPOL 73/78 and the IBC Code					
Section 15: Regulatory Information					

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture EU Regulation (EC) No.

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1907/2006 (REACH)			
Annex XIV – List of substances subject to authorisation Annex XIV Substances of very high concern	None of the components are listed		
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.	Not applicable		
International Lists National Inventory	Inventory name		
Australia	Australian Inventory of Chemical Substances (AICS) – Yes		
Canada	Domestic Substances List (DSL) – Yes Non-Domestic Substances List (NDSL) – No		
China	Inventory of Existing Chemical Substances in China (IECSC) – Yes		
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS) – Yes		
	European List of Notified Chemical Substances (ELINCS) – No		
Japan	Inventory of Existing and New Chemical Substances (ENCS) – Yes		
Korea	Existing Chemicals List (ECL) – Yes		
New Zealand	New Zealand Inventory – Yes		
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS) – Yes		
United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory – Yes			
governing country(s)	this product comply with the inventory requirements administered by the ents of the product are not listed or exempt from listing on the inventory		
Revision comments			
Legend to abbreviations			
ADR	European agreement concerning the international carriage of dangerous good by road.		
RID	Regulations agreement concerning the international carriage of dangerous good by rail.		
IMDG Code	International Maritime Dangerous Goods Code.		
ICAO	International Civil Aviation Organization.		
ΙΑΤΑ	International Air Transport Association.		
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.		
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No.1272/2008].		
SCBA	Self-Contained Breathing Apparatus.		
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006].		
LC 50	Median lethal concentration.		
LD 50 Median lethal dose.			
PBT Persistent, Bio accumulative and Toxic.			

 $\begin{array}{c} \mbox{Regulation}\,(EC)\,\mbox{no}\,1907/2006,\mbox{Annex}\,\,II\,\mbox{as Amended by Commission}\,\mbox{Regulation}\,(EU)\\ 2015/830 \end{array}$

ARKO Gear Oil SP 680

Section 1: Identification of the Substance / M	lixture			
1.1 Product identifier	Invoir C			
Product name	ARKO Gear Oil SP 680			
Product description	Industrial Gear Box Oil			
Product type	Industrial Oil			
MARPOL Annex-1	****			
1.2 Identified uses	1			
Distribution of substance	Industrial			
Formulation & (re)packing of substance &	Industrial			
mixtures				
Manufacture of substance	Industrial			
Functional fluids	Industrial			
Section 2: Hazard Identification				
4-	Health	1		
Extrem	Flammability	1		
e3-	Reactivity	0		
High	Special Special	-		
2-Moderate				
1-Slight				
Section 3: Compostion / Information on Ing	redients			
Product / Ingredient name	CAS No.: Not applicable f	or blended product.		
	Distillates (Petroleum) mixture of hydro-treated hydrocarbons.			
Section 4: First Aid Measures				
Inhalation exposure	Remove to fresh air & prov	vide oxygen, if breathing is difficult. Contact physician		
Skin contact	Remove contaminated clothing. Flush skin with water. Wash skin thoroughly with mild soap & water. If irritation occurs, call a physician.			
Swallowing or other	Do not induce vomiting. In general no treatment is necessary unless large quantities are ingested. Get medical advice.			
Eye contact	Rinse continuously with water for several minutes. Get medical attention, if			
	irritation persists.			
Protection first-aiders	Disconnecting electrical supply. Ensure adequate ventilation and check that a safe and breathing area is available before entry into confined spaces.			
Section 5: Fire Fighting Measures				
5.1 Extinguishing media	b			
Unsuitable extinguishing media	Use dry powder, foam, carbon dioxide. Do not use direct water and wet chemicals, or water on the burning product. They may spread the fire. Use foam simultaneously on the surface.			
5.2 Special hazards arising from the substan				
Hazards from the substance or mixture	Flammable liquids in pressurised containers may rupture and when exposed to heat, creating a highly flammable vapour cloud.			
Hazardous thermal decomposition products	Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide, H_2S , SO_x (sulphur oxides) or sulphuric acid and unidentified organic and inorganic compounds.			
5.3 Advice for firefighters				
Special precautions for firefighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Noaction shall be taken involving any personal risk or without suitable training.			

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	Firefighters should wear appropriate protective equipment and self-contained
Special protective equipment for firefighters	breathing apparatus (SCBA) with a full face- piece operated in positive pressure
	mode. Clothing for firefighters (including helmets, protective boots and gloves)
	conforming to European standard EN 469 will provide a basic level of
	protection for chemical incidents.

Section 6: Accidental Release Measure	s
6.1 Personal precautions, protective ec	
- · · •	Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the
For non-emergency personnel	 emergency. Stop leak if safe to do so. Avoid direct contact with the product. Stay upwind / keep distance from source. In case of large spillages, alert occupants in downwind areas. Eliminate all ignition sources if safe to do so. Spillages of limited amounts of product, especially in the open air when vapours will be usually quickly dispersed, are dynamic situations, which will presumably limit the exposure to dangerous concentrations. Note : Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave / current direction and speed) may significantly influence the choice of appropriate actions.
For emergency responders	For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken. Small spillages: Normal antistatic working clothes are usually adequate. Large spillages: Full body suit of chemically resistant and thermal resistant material should be used. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons.
	Note: Gloves made of PVA are not water-resistant, and are not suitable for emergency use. Safety helmet, antistatic non-skid safety shoes or boots. Goggles and / or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory Protection : A half or full-face respirator with filter(s) for organic vapours (and when applicable for H ₂ S) a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.
	Prevent product from entering sewers, rivers or other bodies of water. If necessary dike the product with dry earth, sand or similar non-combustible materials. In case of soil contamination, remove contaminated soil and treat in
6.2 Environmental precautions	 accordance with local regulations. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities.
6.3 Methods and material for containing	nent and cleaning up
Small spill	Stop leak if without risk. Absorb spilled product with suitable non-combustible materials.
Large spill	Large spillages may be cautiously covered with foam, if available, to limit vapou cloud formation. Do notuse water jet. When inside buildings or confined spaces, ensure adequate ventilation. Transfer collected product and other contaminated

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	materials to suitable containers for recovery or safe disposal.
6.4 Reference to other sections	See Section 1: For emergency contact information. See Section 8: For information on appropriate personal protective equipment. See Section 13: For additional waste treatment information.
Section 7: Handling and Storage	
7.1 Advice on general information – hygiene, storage	Obtain special instructions before use. Keep away from heat / sparks / open flames/hot surfaces. No smoking. Use and store only outdoors or in a well-ventilated area. Hazard of slipping on spilt product. Avoid release to the environment.
7.2 Conditions for safe storage including any incompatibilities	Storage area layout, tank design, equipment and operating procedures must comply with the relevant regional, national or local legislation. Storage installations should be designed with adequate bunds incase of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Store separately from oxidising agents.
	Keep only in the original container or in a suitable container for this kind of product. Keep container tightly closed and sealed until ready for use. Do not store in unlabelled containers. Containers that havebeen opened must be carefully resealed and kept upright to prevent leakage. Empty containers may contain harmful, flammable / combustible or explosive residue or vapours. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards. Protect from sunlight.
7.3 Specific end use(s) – Recommendations	Not available
Section 8: Exposure Controls / Personal Pro	
Exposure Scenario(s).	ld be consulted for any available use-specific information provided in the
8.1 Control parameters	
Occupational exposure limits	
Product / Ingredient name	Distillates, mixture of hydrocarbons
Exposure limits values	AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes.Form: mist and fume [Air contaminant]. AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes.Form: mist and fume.
Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres – Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents)European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents formethods for the determination of hazardous substances will also be

Safety Data-Sheet			
8.2 Exposure control Appropriate engineering controls	Mechanical ventilation and local exhaust will reduce exposure via the air. Use oil resistant material in construction of handling equipment. Store under recommended conditions and if heated, temperature control equipment should be used to avoid overheating.		
Individual protection measures			
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before reuse.		
Eye / face protection	Recommended: Safety glasses with side shields.		
Skin protection			
Hand protection	4 – 8 hours (breakthrough time): nitrile rubber.		
Body protection	Wear protective clothing if there is a risk of skin contact. Change contaminated clothes at the end of working shift.		
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.		
Respiratory protection	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.		
Environmental exposure control	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.		
Section 9: Physical and Chemical Properti	ies		
Appearance	Clear		
Physical state	Liquid		
Colour	Brownish		
Odor	Petroleum odor		
Odour threshold	Not available		
pН	Not applicable		
Pour point	<-9 °C (ASTM D 97)		
Flash point	> 250 °C		
Evaporation rate	Not available		
Flammability (solid, gas)	Not available		
Flammability limits in air (lower), % by volume	Not available		
Flammability limits in air (upper), % by volume	Not available		
Vapour pressure	≤ 0,1 hPa (20 °C) (Mineral oil, ASTM D 5191) (CONCAWE, 2010)		
Density Solubility (ies)	0.88 max at 15 °C		
Solubility (water) Insoluble in water			
Partition coefficient (n-octanol/water)	Not available		
Decomposition temperature	No data		
Auto-ignition temperature	>300 °C		
Kinematic viscosity at 40 °C (104 °F)	680 cSt (ASTM D 445) (Typical Value)		
Explosive properties No data			
Oxidising properties	No data		

		Saf	etv Data-Sheet			
DMSO extractable compounds for base oil Not available						
substance(s)according to	<3 %	-				
Section 10: Stability and Reactivity						
10.1 Reactivity		No specific t ingredients.	No specific test data related to reactivity available for this product or its ingredients.			
10.2 Chemical stability		Stable under	r normal conditions			
10.3 Possibility of hazard	ous reactions	Under norma	al conditions of storage	and use, hazardous rea	ctions will not occur.	
		Oxidising ag	gent.			
10.4 Conditions to avoid			from extreme heat and			
10.5 Incompatible materi	als			give rise to a complex n		
10.6 Hazardous decompo	osition products	airborne solid and liquid particulates, gases, including carbon monoxide, H_2S , SO_x (sulphur oxides) or sulphuric acid and unidentified organic and inorganic compounds.				
SECTION 11: Toxicologi	cal Information					
11.1 Information on toxic	cological effects					
Acute toxicity						
Product / ingredient name	Resu	lt	Species	Dose	Exposure	
Distillate	LC 50 Inhalat and mi		Rat	>2.18mg/l	4 hours	
(Petroleum), hydro treated heavy	LD 50 De	ermal	Rabbit	> 5000	—	
paraffinic	LD 500)1	D.4	mg/kg		
	LD 50 (Drai	Rat	>15000 mg/kg	-	
Irritation / corrosion				IIIB, KB		
Skin						
Eye No known significant effects or critical hazards.			ical hazards.			
Respiratory						
Sensation						
Skin		No known significant effects or critical hazards.				
Respiratory						
Mutagenicity		No data available to indicate product or any components present greater than 0.1 % aremultigene or genotoxic.				
Carcinogenicity		The base oil(s) in this product is based on an severely hydrotreated distillate.				
Reproductive toxicity		The product should not be regarded as a				
		carcinogen. Contains no ingredient listed as toxic to reproduction.				
Specific target organ toxic exposure	Specific target organ toxicity – single		Not classified			
Specific target organ toxic	ity – repeated					
exposure						
Aspiration hazard		Aspiration hazard – Category 1				
Information on likely routes of exposure		Not available				
Potential acute health effectsEye contactEye contact may cause redness and transient pain.						
· · ·				1	ou oouco magninat	
Inhalation Inhalation of oil mist or vapours at elevated temperatures may cause respirate irritation.			ay cause respiratory			
Skin contact		No known significant effects or critical hazards.				
Ingestion	°°4-	May be fatal	if swallowed and enter	s airways.		
Potential chronic health ef	iects	No known -	anificant offects or and	ical hazarda		
General	General No known significant effects or critical hazards.					

Carcinogenicity	The base oil(s) in this product is based on an severely hydrotreated distillate. The		
	product should not beregarded as a carcinogen.		

Mutagenicity			
Teratogenicity			
Product / ingredient name	No known significant effects or critical hazards.		
Fertility effects			
Other information Specific hazard	Not available		
Section 12: Ecological Information			
12.1 Toxicity	Not expected to be harmful to aquatic organisms.		
12.2 Persistence and degradability	Not inherently biodegradable.		
12.3 Bioaccumulative potential	Bioaccumulation is unlikely to be significant because of the low water solubility		
	of this product.		
12.4 Mobility in soil	Not considered mobile.		
12.5 Results of PBT & vPvB assessment	Not applicable		
12.6 Other adverse effects	Insoluble in water. Spills may form a film on water surfaces causing physical		
	damage to organisms. Oxygen transfer could also be impaired.		
Section 13: Disposal Considerations			

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

Product Methods of disposal	Where possible (e.g. in the absence of relevant contamination), recycling of used substance is feasible and recommended. This substance can be burned or incinerated, subject to national/local authorisations, relevant contamination limits, safety regulations and air quality build be contaminated or incinerated degree (set directly regulations).
	legislation. Contaminatedor waste substance (not directly recyclable): Disposal can be carried out directly, or by delivery to qualified waste handlers. National legislation may identify a specific organisation, and/or prescribe limits and methods for recovery or disposal
Hazardous waste	Yes
European waste catalogue (EWC) Waste Code 13 03 07*	Waste designation.
Packaging	Mineral-based non-chlorinated insulating and heat transmission oils.
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste packaging should berecycled. Incineration or landfill should only be considered when recycling is not feasible.

Section 14: Transport Information International transport regulations

international transport regulations					
	ADR / RID	ADN	IMO / IMDG Classification	ICAO / IATA Classification	
14.1 UN number	Not regulated	Not regulated	Not regulated	Not regulated	
14.2 UN proper shipping name	—	_	—	—	
14.3 Transport hazard class(es)	—	_	—	_	
14.4 Packing group	_	—	_	—	
14.5 Environmental hazards	Environmental hazards No No No No				
Additional Information	Additional Information – – – – – –				
14.6 Special precautions for user oils					
14.7 Transport in bulk according to Annex I of MARPOL 73/78 and the IBC Code					
Section 15: Regulatory Information					

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture EU Regulation (EC) No.

Safetv Data-Shee

	Salety Data-Sileet		
1907/2006 (REACH)			
Annex XIV – List of substances subject to authorisation Annex XIV Substances of very high concern	None of the components are listed		
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.	Not applicable		
International Lists National Inventory	Inventory name		
Australia	Australian Inventory of Chemical Substances (AICS) – Yes		
Canada	Domestic Substances List (DSL) – Yes Non-Domestic Substances List (NDSL) – No		
China	Inventory of Existing Chemical Substances in China (IECSC) – Yes		
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS) – Yes		
	European List of Notified Chemical Substances (ELINCS) – No		
Japan	Inventory of Existing and New Chemical Substances (ENCS) – Yes		
Korea	Existing Chemicals List (ECL) – Yes		
New Zealand	New Zealand Inventory – Yes		
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS) – Yes		
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory – Yes		
governing country(s)	this product comply with the inventory requirements administered by the ents of the product are not listed or exempt from listing on the inventory		
Revision comments			
Legend to abbreviations			
ADR	European agreement concerning the international carriage of dangerous good by road.		
RID	Regulations agreement concerning the international carriage of dangerous goo by rail.		
IMDG Code	International Maritime Dangerous Goods Code.		
ICAO	International Civil Aviation Organization.		
ΙΑΤΑ	International Air Transport Association.		
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.		
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No.1272/2008].		
SCBA	Self-Contained Breathing Apparatus.		
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulation[Regulation (EC) No. 1907/2006].		
LC 50	Median lethal concentration.		
LD 50	Median lethal dose.		
PBT	Persistent, Bio accumulative and Toxic.		

 $\begin{array}{c} \mbox{Regulation}\,(EC)\,\mbox{no}\,1907/2006,\mbox{Annex}\,\,II\,\mbox{as Amended by Commission}\,\mbox{Regulation}\,(EU)\\ 2015/830 \end{array}$

ARKO Gear Oil ZN 68

Section 1: Identification of the Substance / M	Tixturo			
1.1 Product identifier				
Product name	ARKO Gear Oil ZN 68			
Product description	Industrial Gear Box Oil			
Product type	Industrial Oil			
MARPOL Annex-1	****			
1.2 Identified uses				
Distribution of substance	Industrial			
Formulation & (re)packing of substance &	Industrial Industrial			
mixtures	Industrial			
Manufacture of substance	Industrial			
Functional fluids	Industrial			
Section 2: Hazard Identification				
4-	Health	1		
Extrem	Flammability	1		
e3-	Reactivity	0		
	Special	-		
High 2-Moderate				
1-Slight Section 3: Composition / Information on Ing	nadianta			
		on blandad menduat		
Product / Ingredient name	CAS No.: Not applicable for Distillates (Petroleum) mix	ture of hydro-treated hydrocarbons.		
Section 4: First Aid Measures				
Inhalation exposure	Remove to fresh air & prov	vide oxygen, if breathing is difficult. Contact physician		
Skin contact	Remove contaminated clothing. Flush skin with water. Wash skin thoroughly			
Skiil contact		irritation occurs, call a physician.		
Swallowing or other	Do not induce vomiting. In general no treatment is necessary unless large			
	quantities are ingested. Get	medical advice.		
Eye contact	Rinse continuously with water for several minutes. Get medical attention, if			
	irritation persists.			
Protection first-aiders	Disconnecting electrical supply. Ensure adequate ventilation and check that a safe and breathing area is available before entry into confined spaces.			
Section 5: Fire Fighting Measures	sale and bleating alea isa	variable before entry into commed spaces.		
5.1 Extinguishing media				
	Use dry powder foam car	bon dioxide. Do not use direct water and wet		
Unsuitable extinguishing media		burning product. They may spread the fire. Use		
	foam simultaneously on the			
5.2 Special hazards arising from the substan				
Hazards from the substance or mixture		surised containers may rupture and when exposed		
	to heat, creating a highly f			
	Incomplete combustion is	likely to give rise to a complex mixture of airborne		
Hazardous thermal decomposition	solid and liquid particulates, gases, including carbon monoxide, H ₂ S, SO _x			
products	(sulphur oxides) or sulphuric acid and unidentified organic and inorganic			
compounds.				
5.3 Advice for firefighters				
Special precautions for firefighters		by removing all persons from the vicinity of the		
	without suitable training.	oaction shall be taken involving any personal risk or		
	without suitable training.			

		Firefighters should wear appropriate protective equipment and self-contained
Special protectiv	e equipment for firefighters	breathing apparatus (SCBA) with a full face- piece operated in positive pressure
		mode. Clothing for firefighters (including helmets, protective boots and gloves)
		conforming to European standard EN 469 will provide a basic level of
		protection for chemical incidents.

Section 6: Accidental Release Measures	8
6.1 Personal precautions, protective eq	
	Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the
For non-emergency personnel	 emergency. Stop leak if safe to do so. Avoid direct contact with the product. Stay upwind / keep distance from source. In case of large spillages, alert occupants in downwind areas. Eliminate all ignition sources if safe to do so. Spillages of limited amounts of product, especially in the open air when vapours will be usually quickly dispersed, are dynamic situations, which will presumably limit the exposure to dangerous concentrations. Note : Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave / current direction and speed) may significantly influence the choice of appropriate actions.
For emergency responders	For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken. Small spillages: Normal antistatic working clothes are usually adequate. Large spillages: Full body suit of chemically resistant and thermal resistant material should be used. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons.
	Note: Gloves made of PVA are not water-resistant, and are not suitable for emergency use. Safety helmet, antistatic non-skid safety shoes or boots. Goggles and / or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory Protection : A half or full-face respirator with filter(s) for organic vapours (and when applicable for H_2S) a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.
	Prevent product from entering sewers, rivers or other bodies of water. If necessary dike the product with dry earth, sand or similar non-combustible materials. In case of soil contamination, remove contaminated soil and treat in
6.2 Environmental precautions	 accordance with local regulations. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities.
6.3 Methods and material for containing	nent and cleaning up
Small spill	Stop leak if without risk. Absorb spilled product with suitable non-combustible materials.
Large spill	Large spillages may be cautiously covered with foam, if available, to limit vapou cloud formation. Do notuse water jet. When inside buildings or confined spaces, ensure adequate ventilation. Transfer collected product and other contaminated

Safety Data-Sheet				
	materials to suitable containers for recovery or safe disposal.			
6.4 Reference to other sections	See Section 1: For emergency contact information. See Section 8: For information on appropriate personal protective equipment.See Section 13: For additional waste treatment information.			
Section 7: Handling and Storage				
7.1 Advice on general information – hygiene, storage	Obtain special instructions before use. Keep away from heat / sparks / open flames/hot surfaces. No smoking. Use and store only outdoors or in a well-ventilated area. Hazard of slipping on spilt product. Avoid release to the environment.			
7.2 Conditions for safe storage including any incompatibilities	Storage area layout, tank design, equipment and operating procedures must comply with the relevant regional, national or local legislation. Storage installations should be designed with adequate bunds incase of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Store separately from oxidising agents. Keep only in the original container or in a suitable container for this kind of			
	product. Keep container tightly closed and sealed until ready for use. Do not store in unlabelled containers. Containers that havebeen opened must be carefully resealed and kept upright to prevent leakage. Empty containers may contain harmful, flammable / combustible or explosive residue or vapours. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards. Protect from sunlight.			
7.3 Specific end use(s) – Recommendations	Not available			
Section 8: Exposure Controls / Personal Pro				
Exposure Scenario(s).	ild be consulted for any available use-specific information provided in the			
8.1 Control parameters				
Occupational exposure limits				
Product / Ingredient name	Distillates, mixture of hydrocarbons			
Exposure limits values	AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes.Form: mist and fume [Air contaminant]. AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes.Form: mist and fume.			
Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres – Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents)European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents formethods for the determination of hazardous substances will also be			

Safety Data-Sheet				
8.2 Exposure control Appropriate engineering controls	Mechanical ventilation and local exhaust will reduce exposure via the air. Use oil resistant material in construction of handling equipment. Store under recommended conditions and if heated, temperature control equipment should be used to avoid overheating.			
Individual protection measures	- · · · · · · · · · · · · · · · · · · ·			
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before reuse.			
Eye / face protection	Recommended: Safety glasses with side shields.			
Skin protection				
Hand protection	4 – 8 hours (breakthrough time): nitrile rubber.			
Body protection	Wear protective clothing if there is a risk of skin contact. Change contaminated clothes at the end of working shift.			
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.			
Respiratory protection	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.			
Environmental exposure control	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.			
Section 9: Physical and Chemical Properti				
Appearance	Clear			
Physical state	Liquid			
Colour	Pale Yellow			
Odor	Petroleum odor			
Odour threshold	Not available			
рН	Not applicable			
Pour point	< -6 °C (ASTM D 97)			
Flash point	> 210 °C			
Evaporation rate	Not available			
Flammability (solid, gas)	Not available			
Flammability limits in air (lower), % by volume	Not available			
Flammability limits in air (upper), % by volume	Not available			
Vapour pressure	≤ 0,1 hPa (20 °C) (Mineral oil, ASTM D 5191) (CONCAWE, 2010)			
Density Solubility (ies)	0.88 max at 15 °C			
Solubility (water)	Insoluble in water			
Partition coefficient (n-octanol/water)	Not available			
Decomposition temperature	No data			
Auto-ignition temperature	>300 °C			
Kinematic viscosity at 40 °C (104 °F)	68 cSt (ASTM D 445) (Typical Value)			
Explosive properties	No data			
Oxidising properties	No data			

Safety Data-Sheet					
DMSO extractable compounds for base oil Not available					
substance(s)according to IP346		<3 %			
Section 10: Stability and Reactivity					
10.1 Reactivity		No specific t	test data related to reacti	vity available for this p	roduct or its
		ingredients.			
10.2 Chemical stability		Stable under	r normal conditions		
10.3 Possibility of hazard	ous reactions		al conditions of storage	and use, hazardous rea	ctions will not occur.
10.4 Conditions to avoid		Oxidising ag	gent. from extreme heat and o	avidicing agants	
	ala		combustion is likely to g		aivtura of
10.5 Incompatible materi			d and liquid particulates		
10.6 Hazardous decompo	osition products	H ₂ S, SO _x (su	alphur oxides) or sulphu ic compounds.		
SECTION 11: Toxicologi	cal Information	and morgan	ie compounds.		
11.1 Information on toxic					
Acute toxicity	Brown erroew				
Product / ingredient	Resul	t	Species	Dose	Exposure
name	LC 50 Inha	lation	Dat	2 19mg	1 h ou vro
Distillate	dusts and		Rat	>2.18mg /l	4 hours
(Petroleum), hydro	LD 50 De	rmal	Rabbit	> 5000	_
treated heavy		/		mg/kg	
paraffinic	LD 50 C	ral	Rat	>15000	-
				mg/kg	
Irritation / corrosion					
Skin					
Eye		No known si	ignificant effects or criti	cal hazards.	
Respiratory					
Sensation					
Skin		No known o	ignificant effects or criti	col hozorda	
Respiratory		INO KHOWH SI	ignificant effects of chu	cai nazarus.	
Mutagenicity		No data available to indicate product or any components present greater than 0.1 % are multigene or genotoxic.			
Carcinogenicity		The base oil(s) in this product is based on an severely hydrotreated distillate.			
		The product should not be regarded as a			
Reproductive toxicity		carcinogen. Contains no ingredient listed			
		as toxic to reproduction.			
Specific target organ toxicity single		Not classified			
Specific target organ toxic	ity – repeated				
exposure					
Aspiration hazard		Aspiration hazard – Category 1			
Information on likely routes of exposure		Not available			
Potential acute health effects					
-		Eye contact may cause redness and transient pain.			
		Inhalation of oil mist or vapours at elevated temperatures may cause respiratory irritation.			
Skin contact	Skin contact No known significant effects or critical hazards.				
Ingestion		May be fatal if swallowed and enters airways.			
Potential chronic health ef	fects	uviay De Tatal		5 an ways.	
General	1000	No known si	ionificant effects or criti	cal hazards	
Scheral	General No known significant effects or critical hazards.				

Carcinogenicity	The base oil(s) in this product is based on an severely hydrotreated distillate. The
	product should not beregarded as a carcinogen.

Mutagenicity			
Teratogenicity	Je breven significant effects on aritical berands		
Product / ingredient name	No known significant effects or critical hazards.		
Fertility effects			
Other information Specific hazard	Not available		
Section 12: Ecological Information			
12.1 Toxicity	Not expected to be harmful to aquatic organisms.		
12.2 Persistence and degradability	Not inherently biodegradable.		
12.3 Bioaccumulative potential	Bioaccumulation is unlikely to be significant because of the low water solubility		
	of this product.		
12.4 Mobility in soil	Not considered mobile.		
12.5 Results of PBT & vPvB assessment	Not applicable		
12.6 Other adverse effects	Insoluble in water. Spills may form a film on water surfaces causing physical		
	damage to organisms. Oxygen transfer could also be impaired.		
Section 13: Disposal Considerations			
The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be			
consulted for any available use-specific information provided in the Exposure Scenario(s).			
	Where possible (e.g. in the absence of relevant contamination), recycling of		
	used substance is feasible and recommended. This substance can be burned		
Product Methods of disposal	or incinerated, subject to national/local		

	authorisations, relevant contamination limits, safety regulations and air quality
	legislation. Contaminated or waste substance (not directly recyclable): Disposal
	can be carried out directly, or by delivery to qualified waste handlers. National
	legislation may identify a specific organisation, and/or prescribe composition
	limits and methods for recovery or disposal
Hazardous waste	Yes
European waste catalogue (EWC) Waste	Waste designation.
Code 13 03 07*	
Packaging	Mineral-based non-chlorinated insulating and heat transmission oils.

considered when recycling is not feasible.

The generation of waste should be avoided or minimised wherever possible.

Waste packaging should berecycled. Incineration or landfill should only be

Methods of disposal

Section 14: Transport Information Trete

International transport regulations						
	ADR / RID	ADN	IMO / IMDG	ICAO / IATA		
			Classification	Classification		
14.1 UN number	Not regulated	Not regulated	Not regulated	Not regulated		
14.2 UN proper shipping name	_	—	—	—		
14.3 Transport hazard class(es)	_	_	_	—		
14.4 Packing group	cking group					
14.5 Environmental hazards	Environmental hazards No No No No					
Additional Information	Additional Information — — — — — —					
14.6 Special precautions for user oils						
14.7 Transport in bulk according to Annex I of MARPOL 73/78 and the IBC Code						
Section 15: Regulatory Information						

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture EU Regulation (EC) No.

1907/2006 (REACH)			
Annex XIV – List of substances subject to authorisation Annex XIV Substances of very high concern	None of the components are listed		
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.	Not applicable		
International Lists National Inventory	Inventory name		
Australia	Australian Inventory of Chemical Substances (AICS) – Yes		
Canada	Domestic Substances List (DSL) – Yes		
Callada	Non-Domestic Substances List (NDSL) – No		
China	Inventory of Existing Chemical Substances in China (IECSC) – Yes		
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS) – Yes		
	European List of Notified Chemical Substances (ELINCS) – No		
Japan	Inventory of Existing and New Chemical Substances (ENCS) – Yes		
Korea	Existing Chemicals List (ECL) – Yes		
New Zealand	New Zealand Inventory – Yes		
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS) – Yes		
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory – Yes		
governing country(s)	this product comply with the inventory requirements administered by the ents of the product are not listed or exempt from listing on the inventory		
Revision comments			
Legend to abbreviations			
ADR	European agreement concerning the international carriage of dangerous good by road.		
RID	Regulations agreement concerning the international carriage of dangerous good by rail.		
IMDG Code	International Maritime Dangerous Goods Code.		
ICAO	International Civil Aviation Organization.		
ΙΑΤΑ	International Air Transport Association.		
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.		
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No.1272/2008].		
SCBA	Self-Contained Breathing Apparatus.		
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006].		
LC 50	Median lethal concentration.		
LD 50	Median lethal dose.		
PBT	Persistent, Bio accumulative and Toxic.		

Regulation (EC) no 1907/2006, Annex II as Amended by Commission Regulation (EU) 2015/830

2015/830

ARKO Gear Oil ZN 100

Section 1: Identification of the Substance / M	lixture		
1.1 Product identifier			
Product name	ARKO Gear Oil ZN 100		
Product description	Industrial Gear Box Oil		
Product type	Industrial Oil		
MARPOL Annex-1	****		
1.2 Identified uses			
Distribution of substance	Industrial		
Formulation & (re)packing of substance & mixtures	Industrial		
Manufacture of substance	Industrial		
Functional fluids	Industrial		
Section 2: Hazard Identification			
4-	Health	1	
Extrem	Flammability	1	
e3-	Reactivity	0	
High	Special	-	
2-Moderate			
1-Slight			
Section 3: Compostion / Information on Ing	redients		
	CAS No.: Not applicable for	or blended product	
Product / Ingredient name		ture of hydro-treated hydrocarbons.	
Section 4: First Aid Measures			
Inhalation exposure	Remove to fresh air & prov	vide oxygen, if breathing is difficult. Contact physician	
Skin contact	Remove contaminated clothing. Flush skin with water. Wash skin thoroughly with mild soap & water. If irritation occurs, call a physician.		
Swallowing or other	Do not induce vomiting. In general no treatment is necessary unless large quantities are ingested. Get medical advice.		
Eye contact	Rinse continuously with water for several minutes. Get medical attention, if		
	irritation persists.		
Protection first-aiders	Disconnecting electrical supply. Ensure adequate ventilation and check that a safe and breathing area is available before entry into confined spaces.		
Section 5: Fire Fighting Measures			
5.1 Extinguishing media	-		
Unsuitable extinguishing media	Use dry powder, foam, carbon dioxide. Do not use direct water and wet chemicals, or water on the burning product. They may spread the fire. Use foam simultaneously on the surface.		
5.2 Special hazards arising from the substan			
Hazards from the substance or mixture	Flammable liquids in pressurised containers may rupture and when exposed to heat, creating a highly flammable vapour cloud.		
Hazardous thermal decomposition products	Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide, H_2S , SO_x (sulphur oxides) or sulphuric acid and unidentified organic and inorganic compounds.		
5.3 Advice for firefighters			
Special precautions for firefighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Noaction shall be taken involving any personal risk or without suitable training.		

		Firefighters should wear appropriate protective equipment and self-contained
Special protective equipment for firefighters	breathing apparatus (SCBA) with a full face- piece operated in positive pressure	
		mode. Clothing for firefighters (including helmets, protective boots and gloves)
		conforming to European standard EN 469 will provide a basic level of
		protection for chemical incidents.

Section 6: Accidental Release Measures	8
6.1 Personal precautions, protective eq	
	Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the
For non-emergency personnel	 emergency. Stop leak if safe to do so. Avoid direct contact with the product. Stay upwind / keep distance from source. In case of large spillages, alert occupants in downwind areas. Eliminate all ignition sources if safe to do so. Spillages of limited amounts of product, especially in the open air when vapours will be usually quickly dispersed, are dynamic situations, which will presumably limit the exposure to dangerous concentrations. Note : Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave / current direction and speed) may significantly influence the choice of appropriate actions.
For emergency responders	For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken. Small spillages: Normal antistatic working clothes are usually adequate. Large spillages: Full body suit of chemically resistant and thermal resistant material should be used. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons. Note: Gloves made of PVA are not water-resistant, and are not suitable for
	emergency use. Safety helmet, antistatic non-skid safety shoes or boots. Goggles and / or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory Protection : A half or full-face respirator with filter(s) for organic vapours (and when applicable for H ₂ S) a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.
	Prevent product from entering sewers, rivers or other bodies of water. If necessary dike the product with dry earth, sand or similar non-combustible materials. In case of soil contamination, remove contaminated soil and treat in
6.2 Environmental precautions	 accordance with local regulations. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities.
6.3 Methods and material for containn	nent and cleaning up
Small spill	Stop leak if without risk. Absorb spilled product with suitable non-combustible materials.
Large spill	Large spillages may be cautiously covered with foam, if available, to limit vapou cloud formation. Do notuse water jet. When inside buildings or confined spaces, ensure adequate ventilation. Transfer collected product and other contaminated

	Safety Data-Sheet
	materials to suitable containers for recovery or safe disposal.
6.4 Reference to other sections	See Section 1: For emergency contact information. See Section 8: For information on appropriate personal protective equipment.See Section 13: For additional waste treatment information.
Section 7: Handling and Storage	
7.1 Advice on general information – hygiene, storage	Obtain special instructions before use. Keep away from heat / sparks / open flames/hot surfaces. No smoking. Use and store only outdoors or in a well-ventilated area. Hazard of slipping on spilt product. Avoid release to the environment.
7.2 Conditions for safe storage including any incompatibilities	Storage area layout, tank design, equipment and operating procedures must comply with the relevant regional, national or local legislation. Storage installations should be designed with adequate bunds incase of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Store separately from oxidising agents.
	Keep only in the original container or in a suitable container for this kind of product. Keep container tightly closed and sealed until ready for use. Do not store in unlabelled containers. Containers that havebeen opened must be carefully resealed and kept upright to prevent leakage. Empty containers may contain harmful, flammable / combustible or explosive residue or vapours. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards. Protect from sunlight.
7.3 Specific end use(s) – Recommendations	Not available
Section 8: Exposure Controls / Personal Pro	
	Id be consulted for any available use-specific information provided in the
Exposure Scenario(s). 8.1 Control parameters	
Occupational exposure limits	
Product / Ingredient name	Distillates, mixture of hydrocarbons
Exposure limits values	AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes. Form: mist and fume [Air contaminant]. AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes. Form: mist and fume.
Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres – Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents)European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents formethods for the determination of hazardous substances will also be required.

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8.2 Exposure control Appropriate engineering controls	Mechanical ventilation and local exhaust will reduce exposure via the air. Use oil resistant material in construction of handling equipment. Store under recommended conditions and if heated, temperature control equipment should be used to avoid overheating.		
Individual protection measures			
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before reuse.		
Eye / face protection	Recommended: Safety glasses with side shields.		
Skin protection			
Hand protection	4 – 8 hours (breakthrough time): nitrile rubber.		
Body protection	Wear protective clothing if there is a risk of skin contact. Change contaminated clothes at the end of working shift.		
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.		
Respiratory protection	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.		
Environmental exposure control	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.		
Section 9: Physical and Chemical Properti			
Appearance	Clear		
Physical state	Liquid		
Colour	Brownish		
Odor	Petroleum odor		
Odour threshold	Not available		
рН	Not applicable		
Pour point	<-6 °C (ASTM D 97)		
Flash point	> 230 °C		
Evaporation rate	Not available		
Flammability (solid, gas)	Not available		
Flammability limits in air (lower), % by volume	Not available		
Flammability limits in air (upper), % by volume	Not available		
Vapour pressure	≤ 0,1 hPa (20 °C) (Mineral oil, ASTM D 5191) (CONCAWE, 2010)		
Density Solubility (ies)	0.88 max at 15 °C		
Solubility (water)	Insoluble in water		
Partition coefficient (n-octanol/water)	Not available		
Decomposition temperature	No data		
Auto-ignition temperature	>300 °C		
Kinematic viscosity at 40 °C (104 °F)	100 cSt (ASTM D 445) (Typical Value)		
Explosive properties	No data		
Oxidising properties	No data		

		Saf	etv Data-Sheet			
DMSO extractable comp	ounds for base oi	l Not available	e			
substance(s)according to		<3 %	-			
Section 10: Stability and	Reactivity					
10.1 Reactivity		No specific t ingredients.	est data related to react	ivity available for this p	roduct or its	
10.2 Chemical stability		Stable under	r normal conditions			
10.3 Possibility of hazard	ous reactions	Under norma	Under normal conditions of storage and use, hazardous reactions will not occur.			
		Oxidising ag	gent.			
10.4 Conditions to avoid		Keep away from extreme heat and oxidising agents.				
10.5 Incompatible materi	als			give rise to a complex n		
10.6 Hazardous decompo	osition products	airborne solid and liquid particulates, gases, including carbon monoxide, H_2S , SO_x (sulphur oxides) or sulphuric acid and unidentified organic and inorganic compounds.				
SECTION 11: Toxicologi	cal Information					
11.1 Information on toxic	cological effects					
Acute toxicity						
Product / ingredient name	Resu	lt	Species	Dose	Exposure	
Distillate	LC 50 Inhalat and mi		Rat	>2.18mg/l	4 hours	
(Petroleum), hydro treated heavy	LD 50 De	ermal	Rabbit	> 5000	—	
paraffinic	LD 500)1	D.4	mg/kg		
	LD 50 (Drai	Rat	>15000 mg/kg	-	
Irritation / corrosion				IIIB, KB		
Skin						
Eye		No known si	gnificant effects or crit	ical hazards.		
Respiratory						
Sensation						
Skin		No known significant effects or critical hazards.				
Respiratory			-			
Mutagenicity		No data available to indicate product or any components present greater than 0.1 % aremultigene or genotoxic.				
Carcinogenicity		The base oil(s) in this product is based on an severely hydrotreated distillate.				
Reproductive toxicity		The product should not be regarded as a				
		carcinogen. Contains no ingredient listed as toxic to reproduction.				
Specific target organ toxic exposure	Specific target organ toxicity – single		Not classified			
Specific target organ toxic	ity – repeated					
exposure						
Aspiration hazard		Aspiration hazard – Category 1				
Information on likely routes of exposure		Not available				
Potential acute health effects						
Eye contact			may cause redness and	1	ou oouco magninat	
i		Inhalation of oil mist or vapours at elevated temperatures may cause respiratory irritation.				
Skin contact		No known significant effects or critical hazards.				
		May be fatal if swallowed and enters airways.				
Potential chronic health ef	iects	No known -	anificant offects or and	ical hazarda		
General		μνο known si	gnificant effects or criti	ical nazafus.		

Carcinogenicity	The base oil(s) in this product is based on an severely hydrotreated distillate. The
	product should not beregarded as a carcinogen.

Mutagenicity			
Teratogenicity			
Product / ingredient name	No known significant effects or critical hazards.		
Fertility effects			
Other information Specific hazard	Not available		
Section 12: Ecological Information			
12.1 Toxicity	Not expected to be harmful to aquatic organisms.		
12.2 Persistence and degradability	Not inherently biodegradable.		
12.3 Bioaccumulative potential	Bioaccumulation is unlikely to be significant because of the low water solubility		
	of this product.		
12.4 Mobility in soil	Not considered mobile.		
12.5 Results of PBT & vPvB assessment	Not applicable		
12.6 Other adverse effects	Insoluble in water. Spills may form a film on water surfaces causing physical		
	damage to organisms. Oxygen transfer could also be impaired.		
Section 13: Disposal Considerations			
The information in this section contains gen	eric advice and guidance. The list of Identified Uses in Section 1 should be		
consulted for any available use-specific info	ormation provided in the Exposure Scenario(s).		
	Where possible (e.g. in the absence of relevant contamination), recycling of		
	used substance is feasible and recommended. This substance can be burned		
Product Methods of disposal	or incinerated, subject to national/local		

	authorisations, relevant contamination limits, safety regulations and air quality
	legislation. Contaminated or waste substance (not directly recyclable): Disposal
	can be carried out directly, or by delivery to qualified waste handlers. National
	legislation may identify a specific organisation, and/or prescribe composition
	limits and methods for recovery or disposal
Hazardous waste	Yes
European waste catalogue (EWC) Waste	Waste designation.
Code 13 03 07*	
Packaging	Mineral-based non-chlorinated insulating and heat transmission oils.

considered when recycling is not feasible.

The generation of waste should be avoided or minimised wherever possible.

Waste packaging should berecycled. Incineration or landfill should only be

Methods of disposal

Section 14: Transport Information International transport regulations

International transport regulations				
	ADR / RID	ADN	IMO / IMDG	ICAO / IATA
			Classification	Classification
14.1 UN number	Not regulated	Not regulated	Not regulated	Not regulated
14.2 UN proper shipping name	—	_	—	_
14.3 Transport hazard class(es)	_	_	—	—
14.4 Packing group	_	_	—	—
14.5 Environmental hazards	No	No	No	No
Additional Information			_	—
14.6 Special precautions for user oils				
14.7 Transport in bulk according to Annex I of MARPOL 73/78 and the IBC Code				
Section 15: Regulatory Information				

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture EU Regulation (EC) No.

1907/2006 (REACH)		
Annex XIV – List of substances subject to authorisation Annex XIV Substances of very high concern	None of the components are listed	
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.	Not applicable	
International Lists National Inventory	Inventory name	
Australia	Australian Inventory of Chemical Substances (AICS) – Yes	
Canada	Domestic Substances List (DSL) – Yes	
Cunada	Non-Domestic Substances List (NDSL) – No	
China	Inventory of Existing Chemical Substances in China (IECSC) – Yes	
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS) – Yes	
	European List of Notified Chemical Substances (ELINCS) – No	
Japan	Inventory of Existing and New Chemical Substances (ENCS) – Yes	
Korea	Existing Chemicals List (ECL) – Yes	
New Zealand	New Zealand Inventory – Yes	
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS) – Yes	
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory – Yes	
governing country(s)	this product comply with the inventory requirements administered by the ents of the product are not listed or exempt from listing on the inventory	
Revision comments		
Legend to abbreviations		
ADR	European agreement concerning the international carriage of dangerous good by road.	
RID	Regulations agreement concerning the international carriage of dangerous good by rail.	
IMDG Code	International Maritime Dangerous Goods Code.	
ICAO	International Civil Aviation Organization.	
ΙΑΤΑ	International Air Transport Association.	
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.	
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No.1272/2008].	
SCBA	Self-Contained Breathing Apparatus.	
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulation[Regulation (EC) No. 1907/2006].	
LC 50	Median lethal concentration.	
LD 50	Median lethal dose.	
PBT	Persistent, Bio accumulative and Toxic.	

Regulation (EC) no 1907/2006, Annex II as Amended by Commission Regulation (EU) 2015/830

ARKO Gear Oil ZN 150

Product descriptionIProduct typeIMARPOL Annex-131.2 Identified usesIDistribution of substanceIFormulation & (re)packing of substance & IImixturesManufacture of substanceIFunctional fluidsISection 2: Hazard Identification4-I	ARKO Gear Oil ZN 150 Industrial Gear Box Oil Industrial Oil **** Industrial Industrial Industrial Industrial Health Flammability			
Product nameAProduct descriptionIProduct typeIMARPOL Annex-1*1.2 Identified usesIDistribution of substanceIFormulation & (re)packing of substance & mixturesIManufacture of substanceIFunctional fluidsISection 2: Hazard Identification4-I	Industrial Gear Box Oil Industrial Oil **** Industrial Industrial Industrial Industrial Health Flammability Reactivity			
Product descriptionIProduct typeIMARPOL Annex-1*1.2 Identified usesIDistribution of substanceIFormulation & (re)packing of substance & mixturesIManufacture of substanceIFunctional fluidsISection 2: Hazard Identification4-I	Industrial Gear Box Oil Industrial Oil **** Industrial Industrial Industrial Industrial Health Flammability Reactivity			
Product type I MARPOL Annex-1 Image: Section 2: Hazard Identification 1.2 Identified uses Image: Section 2: Hazard Identification Jostribution of substance Image: Section 2: Hazard Identification	Industrial Oil **** Industrial Industrial Industrial Health Flammability Reactivity			
MARPOL Annex-1 ³ 1.2 Identified uses Distribution of substance I Formulation & (re)packing of substance & I mixtures Manufacture of substance I Functional fluids I Section 2: Hazard Identification 4-	**** Industrial Industrial Industrial Health Flammability Reactivity			
1.2 Identified usesDistribution of substanceIFormulation & (re)packing of substance &ImixturesIManufacture of substanceIFunctional fluidsISection 2: Hazard Identification4-I	Industrial Industrial Industrial Industrial Health Flammability Reactivity			
Distribution of substanceIFormulation & (re)packing of substance &ImixturesIManufacture of substanceIFunctional fluidsISection 2: Hazard Identification4-I	Industrial Industrial Industrial Health Flammability Reactivity			
Formulation & (re)packing of substance & ImixturesManufacture of substanceIFunctional fluidsISection 2: Hazard Identification4-	Industrial Industrial Industrial Health Flammability Reactivity			
mixtures Manufacture of substance I Functional fluids Section 2: Hazard Identification 4-	Industrial Industrial Health Flammability Reactivity			
Manufacture of substanceIFunctional fluidsISection 2: Hazard Identification4-I	Industrial Health Flammability Reactivity			
Section 2: Hazard Identification 4-	Health Flammability Reactivity	1 1 0		
4-	Flammability Reactivity			
	Flammability Reactivity	1 1 0		
Extrem	Reactivity			
	Reactivity	0		
e3-				
05-	7			
High				
2-Moderate				
1-Slight	adianta			
Section 3: Composition / Information on Ingredients Product / Ingredient name CAS No.: Not applicable for blended product.				
		ture of hydro-treated hydrocarbons.		
Section 4: First Aid Measures	Distinues (renoicenn) mix			
Inhalation exposure	Remove to fresh air & prov	vide oxygen, if breathing is difficult. Contact physician		
· · · · · · · · · · · · · · · · · · ·	Remove contaminated clothing. Flush skin with water. Wash skin thoroughly with mild soap & water. If irritation occurs, call a physician.			
	Do not induce vomiting. In general no treatment is necessary unless large quantities are ingested. Get medical advice.			
	Rinse continuously with water for several minutes. Get medical attention, if			
	irritation persists.			
	Disconnecting electrical supply. Ensure adequate ventilation and check that a safe and breathing area is available before entry into confined spaces.			
Section 5: Fire Fighting Measures				
5.1 Extinguishing media				
Chisultuble extinguishing media	Use dry powder, foam, carbon dioxide. Do not use direct water and wet chemicals, or water on the burning product. They may spread the fire. Use foam simultaneously on the surface.			
۴ 5.2 Special hazards arising from the substanc				
Hazards from the substance or mixture	Flammable liquids in press	surised containers may rupture and when exposed		
Hazardous thermal decomposition products	to heat, creating a highly flammable vapour cloud. Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide, H ₂ S, SO _x (sulphur oxides) or sulphuric acid andunidentified organic and inorganic compounds.			
5.3 Advice for firefighters				
i		by removing all persons from the vicinity of the oaction shall be taken involving any personal risk or		

т

	Firefighters should wear appropriate protective equipment and self-contained
Special protective equipment for firefighters	breathing apparatus (SCBA) with a full face- piece operated in positive pressure
	mode. Clothing for firefighters (including helmets, protective boots and gloves)
	conforming to European standard EN 469 will provide a basic level of
	protection for chemical incidents.

Section 6: Accidental Release Measures				
6.1 Personal precautions, protective e				
	Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the			
For non-emergency personnel	 emergency. Stop leak if safe to do so. Avoid direct contact with the product. Stay upwind / keep distance from source. In case of large spillages, alert occupants in downwind areas. Eliminate all ignition sources if safe to do so. Spillages of limited amounts of product, especially in the open air when vapours will be usually quickly dispersed, are dynamic situations, which will presumably limit the exposure to dangerous concentrations. Note : Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave / current direction and speed) may significantly influence the choice of appropriate actions. 			
For emergency responders	For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken. Small spillages: Normal antistatic working clothes are usually adequate. Large spillages: Full body suit of chemically resistant and thermal resistant material should be used. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons. Note: Gloves made of PVA are not water-resistant, and are not suitable for			
	emergency use. Safety helmet, antistatic non-skid safety shoes or boots. Goggles and / or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory Protection : A half or full-face respirator with filter(s) for organic vapours (and when applicable for H ₂ S) a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.			
	Prevent product from entering sewers, rivers or other bodies of water. If necessary dike the product with dry earth, sand or similar non-combustible materials. In case of soil contamination, remove contaminated soil and treat in			
6.2 Environmental precautions	 accordance with local regulations. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities. 			
6.3 Methods and material for contain	ment and cleaning up			
Small spill	Stop leak if without risk. Absorb spilled product with suitable non-combustible materials.			
Large spill	Large spillages may be cautiously covered with foam, if available, to limit vapou cloud formation. Do notuse water jet. When inside buildings or confined spaces, ensure adequate ventilation. Transfer collected product and other contaminated			

 uitable containers for recovery or safe disposal. : For emergency contact information. : For information on appropriate personal aipment. See Section 13: For additional waste ormation. l instructions before use. Keep away from heat / sparks / open rfaces. No smoking. Use and store only outdoors or in a well- a. Hazard of slipping on spilt product. Avoid release to the t. layout, tank design, equipment and operating procedures must the relevant regional, national or local legislation. Storage should be designed with adequate bunds incase of leaks or spills.
 a: For information on appropriate personal appent. See Section 13: For additional waste ormation. l instructions before use. Keep away from heat / sparks / open rfaces. No smoking. Use and store only outdoors or in a well-a. Hazard of slipping on spilt product. Avoid release to the t. layout, tank design, equipment and operating procedures must the relevant regional, national or local legislation. Storage should be designed with adequate bunds incase of leaks or spills.
rfaces. No smoking. Use and store only outdoors or in a well- a. Hazard of slipping on spilt product. Avoid release to the t. layout, tank design, equipment and operating procedures must the relevant regional, national or local legislation. Storage should be designed with adequate bunds incase of leaks or spills.
rfaces. No smoking. Use and store only outdoors or in a well- a. Hazard of slipping on spilt product. Avoid release to the t. layout, tank design, equipment and operating procedures must the relevant regional, national or local legislation. Storage should be designed with adequate bunds incase of leaks or spills.
the relevant regional, national or local legislation. Storage should be designed with adequate bunds incase of leaks or spills.
pection and maintenance of internal structure of storage tanks must by properly equipped and qualified personnel as defined by al or company regulations. Store separately from oxidising the original container or in a suitable container for this kind of o container tightly closed and sealed until ready for use. Do not elled containers. Containers that havebeen opened must be
aled and kept upright to prevent leakage. Empty containers may ful, flammable / combustible or explosive residue or vapours. Do , drill, weld, reuse or dispose of containers unless adequate re taken against these hazards. sunlight.
d for any available use-specific information provided in the
ixture of hydrocarbons
Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume m ³ 15 minutes. Form: mist and fume [Air contaminant]. Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume m ³ 15 minutes. Form: mist and fume.
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Safetv Data-Sheet				
8.2 Exposure control Appropriate engineering controls	Mechanical ventilation and local exhaust will reduce exposure via the air. Use oil resistant material in construction of handling equipment. Store under recommended conditions and if heated, temperature control equipment should be used to avoid overheating.			
Individual protection measures				
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before reuse.			
Eye / face protection	Recommended: Safety glasses with side shields.			
Skin protection				
Hand protection	4 – 8 hours (breakthrough time): nitrile rubber.			
Body protection	Wear protective clothing if there is a risk of skin contact. Change contaminated clothes at the end of working shift.			
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.			
Respiratory protection	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.			
Environmental exposure control	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.			
Section 9: Physical and Chemical Properti				
Appearance	Clear			
Physical state	Liquid			
Colour	Brownish			
Odor	Petroleum odor			
Odour threshold	Not available			
рН	Not applicable			
Pour point	<-6 °C (ASTM D 97)			
Flash point	> 230 °C			
Evaporation rate	Not available			
Flammability (solid, gas)	Not available			
Flammability limits in air (lower), % by volume	Not available			
Flammability limits in air (upper), % by volume	Not available			
Vapour pressure	≤ 0,1 hPa (20 °C) (Mineral oil, ASTM D 5191) (CONCAWE, 2010)			
Density Solubility (ies)	0.88 max at 15 °C			
Solubility (water)	Insoluble in water			
Partition coefficient (n-octanol/water)	Not available			
Decomposition temperature	No data			
Auto-ignition temperature	>300 °C			
Kinematic viscosity at 40 °C (104 °F)	150 cSt (ASTM D 445) (Typical Value)			
Explosive properties	No data			
Oxidising properties	No data			

		Saf	etv Data-Sheet			
DMSO extractable compounds for base oil Not available						
1		Not available				
Section 10: Stability and		NJ 70				
10.1 Reactivity	Keactivity	No enceifie t	east data related to react	with available for this r	modulat an ita	
•		ingredients.	est data related to reacti	ivity available for this p	broduct or its	
10.2 Chemical stability		Stable under	r normal conditions			
10.4 Conditions to avoid 1 10.5 Incompatible materials 1 10.6 Hazardous decomposition products 1			Under normal conditions of storage and use, hazardous reactions will not occur. Oxidising agent.			
			from extreme heat and	oxidising agents.		
					nixture of	
		airborne soli H ₂ S, SO _x (su	Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide, H ₂ S, SO _x (sulphur oxides) or sulphuric acid and unidentified organic and inorganic compounds.			
SECTION 11: Toxicologi	cal Information					
11.1 Information on toxic	cological effects					
Acute toxicity						
Product / ingredient name	Resu	lt	Species	Dose	Exposure	
Distillate	LC 50 Inhalat and mi		Rat	>2.18mg/l	4 hours	
(Petroleum), hydro treated heavy	LD 50 De	ermal	Rabbit	> 5000 mg/kg	_	
paraffinic	LD 50 (Oral	Rat	>15000 mg/kg	-	
Irritation / corrosion						
Skin		No known si	gnificant effects or criti	cal hazards.		
Eye			0			
Respiratory						
Sensation						
Skin		No known significant effects or critical hazards.				
Respiratory						
Mutagenicity		No data available to indicate product or any components present greater than 0.1 % are multigene or genotoxic.				
Carcinogenicity		The base oil(s) in this product is based on an severely hydrotreated distillate.				
Reproductive toxicity			The product should not be regarded as a carcinogen. Contains no ingredient listed as toxic to reproduction.			
Specific target organ toxic exposure	city – single	Not classified				
Specific target organ toxic exposure	rity – repeated					
Aspiration hazard		Aspiration hazard – Category 1				
Information on likely route	es of exposure	Not available				
Potential acute health effect	cts					
Eye contact		Eye contact	may cause redness and	transient pain.		
Inhalation			Inhalation of oil mist or vapours at elevated temperatures may cause respiratory			
Skin contact		No known significant effects or critical hazards.				
Ingestion		May be fatal if swallowed and enters airways.				
Potential chronic health ef	fects					



Safety Data-Sheet		
General	No known significant effects or critical hazards.	
Carcinogenicity	The base oil(s) in this product is based on an severely hydrotreated distillate. The product should not beregarded as a carcinogen.	

Mutagenicity		
Teratogenicity	Na brann significant offects on witigal baranda	
Product / ingredient name	No known significant effects or critical hazards.	
Fertility effects		
Other information Specific hazard	Not available	
Section 12: Ecological Information		
12.1 Toxicity	Not expected to be harmful to aquatic organisms.	
12.2 Persistence and degradability	adability Not inherently biodegradable.	
12.3 Bioaccumulative potential	Bioaccumulation is unlikely to be significant because of the low water solubility	
	of this product.	
12.4 Mobility in soil	Not considered mobile.	
12.5 Results of PBT & vPvB assessment	Not applicable	
12.6 Other adverse effects	Insoluble in water. Spills may form a film on water surfaces causing physical	
	damage to organisms. Oxygen transfer could also be impaired.	

Section 13: Disposal Considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

	Where possible (e.g. in the absence of relevant contamination), recycling of
	used substance is feasible and recommended. This substance can be burned
Product Methods of disposal	or incinerated, subject to national/local
	authorisations, relevant contamination limits, safety regulations and air quality
	legislation. Contaminated or waste substance (not directly recyclable): Disposal
	can be carried out directly, or by delivery to qualified waste handlers. National
	legislation may identify a specific organisation, and/or prescribe composition
	limits and methods for recovery or disposal
Hazardous waste	Yes
European waste catalogue (EWC) Waste	Waste designation.
Code 13 03 07*	
Packaging	Mineral-based non-chlorinated insulating and heat transmission oils.
Methods of disposal	The generation of waste should be avoided or minimised wherever possible.
monious of disposu	Waste packaging should berecycled. Incineration or landfill should only be
	considered when recycling is not feasible.

Section 14: Transport Information

International transport regulat	sport regulations			
	ADR / RID	ADN	IMO / IMDG Classification	ICAO / IATA Classification
14.1 UN number	Not regulated	Not regulated	Not regulated	Not regulated
14.2 UN proper shipping name	_	_	—	_
14.3 Transport hazard class(es)	—	—	—	_
14.4 Packing group	_	_	—	—
14.5 Environmental hazards	No	No	No	No
Additional Information	_	—	—	—
14.6 Special precautions for user oils				
14.7 Transport in bulk accordi	ing to Annex I of MARP	OL 73/78 and the IBC C	Code	
Section 15: Regulatory Information				

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture EU Regulation (EC) No.
1907/2006 (REACH)

Annex XIV – List of substances subject to authorisation Annex XIV Substances of very high concern	None of the components are listed Not applicable	
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.		
International Lists National Inventory	Inventory name	
Australia	Australian Inventory of Chemical Substances (AICS) – Yes	
Canada	Domestic Substances List (DSL) – Yes	
	Non-Domestic Substances List (NDSL) – No	
China	Inventory of Existing Chemical Substances in China (IECSC) – Yes	

Europe	European Inventory of Existing Commercial Chemical Substances (EINECS) – Yes
	European List of Notified Chemical Substances (ELINCS) – No
Japan	Inventory of Existing and New Chemical Substances (ENCS) – Yes
Korea	Existing Chemicals List (ECL) – Yes
New Zealand	New Zealand Inventory – Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS) – Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory – Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Section 16: Other Information	
Revision comments	
Legend to abbreviations	
ADR	European agreement concerning the international carriage of dangerous good by road.
RID	Regulations agreement concerning the international carriage of dangerous good by rail.
IMDG Code	International Maritime Dangerous Goods Code.
ICAO	International Civil Aviation Organization.
IATA	International Air Transport Association.
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No.1272/2008].
SCBA	Self-Contained Breathing Apparatus.
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulation[Regulation (EC) No. 1907/2006].
LC 50	Median lethal concentration.
LD 50	Median lethal dose.
PBT	Persistent, Bio accumulative and Toxic.

Regulation (EC) no 1907/2006, Annex II as Amended by Commission Regulation (EU) 2015/830

ARKO Gear Oil ZN 220

Section 1: Identification of the Substance / I	Mivtura		
1.1 Product identifier			
Product name	ARKO Gear Oil ZN 220		
Product description	Industrial Gear Box Oil		
Product type	Industrial Oil		
MARPOL Annex-1 1.2 Identified uses	****		
Distribution of substance	Industrial		
Formulation & (re)packing of substance &	Industrial		
mixtures	Industrial		
Manufacture of substance	Industrial		
Functional fluids	Industrial		
Section 2: Hazard Identification			
4-	Health	1	
Extrem	Flammability	1	
e3-	Reactivity	0	
	Special	_	
High			
2-Moderate			
1-Slight	un d'auta		
Section 3: Compostion / Information on Ing			
Product / Ingredient name	CAS No.: Not applicable f Distillates (Petroleum) mix	ture of hydro-treated hydrocarbons.	
Section 4: First Aid Measures			
Inhalation exposure	Remove to fresh air & prov	vide oxygen, if breathing is difficult. Contact physician	
Skin contact		Remove contaminated clothing. Flush skin with water. Wash skin thoroughly with mild soap & water. If irritation occurs, call a physician.	
Swallowing or other	Do not induce vomiting. In general no treatment is necessary unless large quantities are ingested. Get medical advice.		
Eye contact	Rinse continuously with water for several minutes. Get medical attention, if irritation persists.		
Protection first-aiders	Disconnecting electrical supply. Ensure adequate ventilation and check that a safe and breathing area is available before entry into confined spaces.		
Section 5: Fire Fighting Measures			
5.1 Extinguishing media			
Unsuitable extinguishing media	Use dry powder, foam, carbon dioxide. Do not use direct water and wet chemicals, or water on the burning product. They may spread the fire. Use foam simultaneously on the surface.		
5.2 Special hazards arising from the substa			
Hazards from the substance or mixture	Flammable liquids in pressurised containers may rupture and when exposed to heat, creating a highly flammable vapour cloud.		
Hazardous thermal decomposition products	Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide, H_2S , SO_x (sulphur oxides) or sulphuric acid and unidentified organic and inorganic compounds.		
5.3 Advice for firefighters	1		
Special precautions for firefighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Noaction shall be taken involving any personal risk or without suitable training.		

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		Firefighters should wear appropriate protective equipment and self-contained
Special protectiv	e equipment for firefighters	breathing apparatus (SCBA) with a full face- piece operated in positive pressure
		mode. Clothing for firefighters (including helmets, protective boots and gloves)
		conforming to European standard EN 469 will provide a basic level of
		protection for chemical incidents.

Section 6: Accidental Release Measures	
6.1 Personal precautions, protective eq	
	Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the
For non-emergency personnel	 emergency. Stop leak if safe to do so. Avoid direct contact with the product. Stay upwind / keep distance from source. In case of large spillages, alert occupants in downwind areas. Eliminate all ignition sources if safe to do so. Spillages of limited amounts of product, especially in the open air when vapours will be usually quickly dispersed, are dynamic situations, which will presumably limit the exposure to dangerous concentrations. Note : Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave / current direction and speed) may significantly influence the choice of appropriate actions.
For emergency responders	 For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken. Small spillages: Normal antistatic working clothes are usually adequate. Large spillages: Full body suit of chemically resistant and thermal resistant material should be used. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons. Note: Gloves made of PVA are not water-resistant, and are not suitable for emergency use. Safety helmet, antistatic non-skid safety shoes or boots. Goggles and / or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory Protection : A half or full-face respirator with filter(s) for organic wances (and when applicable for H₂S) a Self Contained Breathing Apparatus
	vapours (and when applicable for H_2S) a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.
6.2 Environmental precautions	Prevent product from entering sewers, rivers or other bodies of water. If necessary dike the product with dry earth, sand or similar non-combustible materials. In case of soil contamination, remove contaminated soil and treat in
Un vir on intential precautions	 accordance with local regulations. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities.
6.3 Methods and material for containm	ent and cleaning up
Small spill	Stop leak if without risk. Absorb spilled product with suitable non-combustible materials.
Large spill	Large spillages may be cautiously covered with foam, if available, to limit vapou cloud formation. Do notuse water jet. When inside buildings or confined spaces, ensure adequate ventilation. Transfer collected product and other contaminated

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	materials to suitable containers for recovery or safe disposal.			
6.4 Reference to other sections	See Section 1: For emergency contact information. See Section 8: For information on appropriate personal protective equipment. See Section 13: For additional waste treatment information.			
Section 7: Handling and Storage				
7.1 Advice on general information – hygiene, storage	Obtain special instructions before use. Keep away from heat / sparks / open flames/hot surfaces. No smoking. Use and store only outdoors or in a well-ventilated area. Hazard of slipping on spilt product. Avoid release to the environment.			
7.2 Conditions for safe storage including any incompatibilities	Storage area layout, tank design, equipment and operating procedures must comply with the relevant regional, national or local legislation. Storage installations should be designed with adequate bunds incase of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Store separately from oxidising agents.			
	Keep only in the original container or in a suitable container for this kind of product. Keep container tightly closed and sealed until ready for use. Do not store in unlabelled containers. Containers that havebeen opened must be carefully resealed and kept upright to prevent leakage. Empty containers may contain harmful, flammable / combustible or explosive residue or vapours. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards. Protect from sunlight.			
7.3 Specific end use(s) – Recommendations	Not available			
Section 8: Exposure Controls / Personal Pro				
	ild be consulted for any available use-specific information provided in the			
Exposure Scenario(s). 8.1 Control parameters				
Occupational exposure limits				
Product / Ingredient name	Distillates, mixture of hydrocarbons			
Exposure limits values	AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes. Form: mist and fume [Air contaminant]. AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes. Form: mist and fume.			
Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres – Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents)European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents formethods for the determination of hazardous substances will also be required.			

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8.2 Exposure control Appropriate engineering controls	Mechanical ventilation and local exhaust will reduce exposure via the air. Use oil resistant material in construction of handling equipment. Store under recommended conditions and if heated, temperature control equipment should be used to avoid overheating.	
Individual protection measures		
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before reuse.	
Eye / face protection	Recommended: Safety glasses with side shields.	
Skin protection		
Hand protection	4 – 8 hours (breakthrough time): nitrile rubber.	
Body protection	Wear protective clothing if there is a risk of skin contact. Change contaminated clothes at the end of working shift.	
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.	
Respiratory protection	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.	
Environmental exposure control	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.	
Section 9: Physical and Chemical Properti	ies	
Appearance	Clear	
Physical state	Liquid	
Colour	Brownish	
Odor	Petroleum odor	
Odour threshold	Not available	
pH	Not applicable	
Pour point	< -6 °C (ASTM D 97)	
Flash point	> 230 °C	
Evaporation rate	Not available	
Flammability (solid, gas)	Not available	
Flammability limits in air (lower), % by volume	Not available	
Flammability limits in air (upper), % by volume	Not available	
$d_{apour pressure}$ $\leq 0,1 \text{ hPa} (20 \text{ °C}) (Mineral oil, ASTM D 5191) (CONCAWE, 2010)$		
Density Solubility (ies)	0.88 max at 15 °C	
Solubility (water)	Insoluble in water	
Partition coefficient (n-octanol/water)	Not available	
Decomposition temperature	No data	
Auto-ignition temperature	>300 °C	
Kinematic viscosity at 40 °C (104 °F)	220 cSt (ASTM D 445) (Typical Value)	
Explosive properties	No data	
Oxidising properties	No data	

		Saf	etv Data-Sheet		
DMSO extractable comp	oounds for base oil	l Not available	e		
substance(s)according to		<3 %			
Section 10: Stability and	Reactivity				
10.1 Reactivity		No specific t ingredients.	est data related to react	ivity available for this p	roduct or its
10.2 Chemical stability		Stable under	r normal conditions		
10.3 Possibility of hazard	ous reactions	Under norma	al conditions of storage	and use, hazardous rea	ctions will not occur.
		Oxidising ag	gent.		
10.4 Conditions to avoid			from extreme heat and		
10.5 Incompatible materi	als		combustion is likely to g		
10.6 Hazardous decompo	osition products	H ₂ S, SO _x (su	d and liquid particulate alphur oxides) or sulphur ic compounds.		
SECTION 11: Toxicologi	cal Information				
11.1 Information on toxic	cological effects				
Acute toxicity					
Product / ingredient name	Resu	lt	Species	Dose	Exposure
Distillate	LC 50 Inhalat and mi		Rat	>2.18mg/l	4 hours
(Petroleum), hydro treated heavy	LD 50 De	ermal	Rabbit	> 5000 mg/kg	-
paraffinic	LD 50 (Dral	Rat	>15000 mg/kg	-
Irritation / corrosion					
Skin					
Eye		No known si	gnificant effects or criti	ical hazards.	
Respiratory					
Sensation					
Skin		No known si	gnificant effects or criti	ical hazards.	
Respiratory		NT 1 (· .
Mutagenicity		greater than	ilable to indicate produ 0.1 % aremultigene o	r genotoxic.	
Carcinogenicity			(s) in this product is bas		otreated distillate.
Reproductive toxicity		-	should not be regarded Contains no ingredient		
		as toxic to re	-	listed	
Specific target organ toxic exposure	city – single	Not classifie	•		
Specific target organ toxic exposure	tity – repeated				
Aspiration hazard		Aspiration h	nazard – Category 1		
Information on likely routes of exposure		Not available			
Potential acute health effect	cts				
Eye contact			may cause redness and	1	
Inhalation		irritation.	f oil mist or vapours at e	-	nay cause respiratory
Skin contact		No known significant effects or critical hazards.			
Ingestion		May be fatal	if swallowed and enter	s airways.	
Potential chronic health ef	fects	NT 1	101 . 00	11 1	
General		No known si	gnificant effects or criti	ical hazards.	

Carcinogenicity	The base oil(s) in this product is based on an severely hydrotreated distillate. The
	product should not beregarded as a carcinogen.

Mutagenicity		
Teratogenicity		
Product / ingredient name	No known significant effects or critical hazards.	
Fertility effects		
Other information Specific hazard	Not available	
Section 12: Ecological Information		
12.1 Toxicity	Not expected to be harmful to aquatic organisms.	
12.2 Persistence and degradability	Not inherently biodegradable.	
12.3 Bioaccumulative potential	Bioaccumulation is unlikely to be significant because of the low water solubilit of this product.	
12.4 Mobility in soil	Not considered mobile.	
12.5 Results of PBT & vPvB assessment	Not applicable	
12.6 Other adverse effects Insoluble in water. Spills may form a film on water surfaces causing damage to organisms. Oxygen transfer could also be impaired.		
Section 13: Disposal Considerations		
The information in this section contains gen	eric advice and guidance. The list of Identified Uses in Section 1 should be	
consulted for any available use-specific info	prmation provided in the Exposure Scenario(s).	
Product Methods of disposal	Where possible (e.g. in the absence of relevant contamination), recycling of used substance is feasible and recommended. This substance can be burned or incinerated, subject to national/local authorisations, relevant contamination limits, safety regulations and air quality	

legislation. Contaminated or waste substance (not directly recyclable): Disposal can be carried out directly, or by delivery to qualified waste handlers. National legislation may identify a specific organisation, and/or prescribe composition limits and methods for recovery or disposal Yes European waste catalogue (EWC) Waste Waste designation.

Code 13 03 07* Mineral-based non-chlorinated insulating and heat transmission oils. Packaging The generation of waste should be avoided or minimised wherever possible. Methods of disposal Waste packaging should berecycled. Incineration or landfill should only be considered when recycling is not feasible.

Section 14: Transport Information International transport regulations

Hazardous waste

International transport regulations				
	ADR / RID	ADN	IMO / IMDG Classification	ICAO / IATA Classification
14.1 UN number	Not regulated	Not regulated	Not regulated	Not regulated
14.2 UN proper shipping name	_	_	_	—
14.3 Transport hazard class(es)	—	—	—	—
14.4 Packing group	_	—	—	—
14.5 Environmental hazards	No	No	No	No
Additional Information — — — — — —				
14.6 Special precautions for user oils				
14.7 Transport in bulk according to Annex I of MARPOL 73/78 and the IBC Code				
Section 15: Regulatory Information				

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture EU Regulation (EC) No.

1907/2006 (REACH)		
Annex XIV – List of substances subject to authorisation Annex XIV Substances of very high concern	None of the components are listed	
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.	Not applicable	
International Lists National Inventory	Inventory name	
Australia	Australian Inventory of Chemical Substances (AICS) – Yes	
Canada	Domestic Substances List (DSL) – Yes	
Callada	Non-Domestic Substances List (NDSL) – No	
China	Inventory of Existing Chemical Substances in China (IECSC) – Yes	
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS) – Yes	
	European List of Notified Chemical Substances (ELINCS) – No	
Japan	Inventory of Existing and New Chemical Substances (ENCS) – Yes	
Korea	Existing Chemicals List (ECL) – Yes	
New Zealand	New Zealand Inventory – Yes	
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS) – Yes	
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory – Yes	
governing country(s)	this product comply with the inventory requirements administered by the ents of the product are not listed or exempt from listing on the inventory	
Revision comments		
Legend to abbreviations		
ADR	European agreement concerning the international carriage of dangerous good by road.	
RID	Regulations agreement concerning the international carriage of dangerous good by rail.	
IMDG Code	International Maritime Dangerous Goods Code.	
ICAO	International Civil Aviation Organization.	
ΙΑΤΑ	International Air Transport Association.	
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.	
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No.1272/2008].	
SCBA	Self-Contained Breathing Apparatus.	
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006].	
LC 50	Median lethal concentration.	
LD 50	Median lethal dose.	
PBT	Persistent, Bio accumulative and Toxic.	

Regulation (EC) no 1907/2006, Annex II as Amended by Commission Regulation (EU) 2015/830

Disclaimer: Information contained in this material data sheet is believed to be reliable, but no representation, guarantee or warranties of any kind made as to its accuracy, suitability for a particular application or results to be obtained from them. It is up to the manufacturer / seller to ensure that the information content in the material data sheet is relevant to the product manufactured / handled or sold by, as the case may be. R K PETROLEUMS makes no warranties expressed or implied in respect of the adequacyof this document for any particular purpose.

ARKO Gear Oil ZN 320

Section 1: Identification of the Substance / M	lixture			
1.1 Product identifier				
Product name	ARKO Gear Oil ZN 320			
Product description	Industrial Gear Box Oil			
Product type	Industrial Oil			
MARPOL Annex-1	***			
1.2 Identified uses				
Distribution of substance	Industrial			
Formulation & (re)packing of substance & mixtures	Industrial			
Manufacture of substance	Industrial			
Functional fluids	Industrial			
Section 2: Hazard Identification				
4-	Health	1		
Extrem	Flammability			
e3-	Reactivity	0		
High	Special	-		
2-Moderate				
1-Slight				
Section 3: Compostion / Information on Ing	redients			
Product / Ingredient name	CAS No.: Not applicable for blended product. Distillates (Petroleum) mixture of hydro-treated hydrocarbons.			
Section 4: First Aid Measures				
Inhalation exposure	Remove to fresh air & prov	vide oxygen, if breathing is difficult. Contact physician		
Skin contact	Remove contaminated clothing. Flush skin with water. Wash skin thoroughly with mild soap & water. If irritation occurs, call a physician.			
Swallowing or other	Do not induce vomiting. In general no treatment is necessary unless large quantities are ingested. Get medical advice.			
Eye contact	Rinse continuously with water for several minutes. Get medical attention, if irritation persists.			
Protection first-aiders	Disconnecting electrical supply. Ensure adequate ventilation and check that a safe and breathing area is available before entry into confined spaces.			
Section 5: Fire Fighting Measures				
5.1 Extinguishing media				
Unsuitable extinguishing media	Use dry powder, foam, carbon dioxide. Do not use direct water and wet chemicals, or water on the burning product. They may spread the fire. Use foam simultaneously on the surface.			
5.2 Special hazards arising from the substance or mixture				
Hazards from the substance or mixture	Flammable liquids in pressurised containers may rupture and when exposed to heat, creating a highly flammable vapour cloud.			
Hazardous thermal decomposition products	Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide, H_2S , SO_x (sulphur oxides) or sulphuric acid and unidentified organic and inorganic compounds.			
5.3 Advice for firefighters	· •			
Special precautions for firefighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Noaction shall be taken involving any personal risk or			

Safety Data-Sheet				
	without suitable training.			
Special protective equipment for firefighters	Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face- piece operated in positive pressure mode. Clothing for firefighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.			

Section 6: Accidental Release Measures	
6.1 Personal precautions, protective equi	pment and emergency procedures
For non-emergency personnel	 Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the emergency. Stop leak if safe to do so. Avoid direct contact with the product. Stay upwind / keep distance from source. In case of large spillages, alert occupants in downwind areas. Eliminate all ignition sources if safe to do so. Spillages of limited amounts of product, especially in the open air when vapours will be usually quickly dispersed, are dynamic situations, which will presumably limit the exposure to dangerous concentrations. Note : Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave / current direction and speed) may significantly influence the choice of appropriate actions.
For emergency responders	 For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken. Small spillages: Normal antistatic working clothes are usually adequate. Large spillages: Full body suit of chemically resistant and thermal resistant material should be used. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons. Note: Gloves made of PVA are not water-resistant, and are not suitable for emergency use. Safety helmet, antistatic non-skid safety shoes or boots. Goggles and / or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory Protection : A half or full-face respirator with filter(s) for organic vapours (and when applicable for H₂S) a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.
6.2 Environmental precautions	 Prevent product from entering sewers, rivers or other bodies of water. If necessary dike the product with dry earth, sand or similar non-combustible materials. In case of soil contamination, remove contaminated soil and treat in accordance with local regulations. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities.
6.3 Methods and material for containment	
Small spill	Stop leak if without risk. Absorb spilled product with suitable non-combustible materials.

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Large spill	Large spillages may be cautiously covered with foam, if available, to limit vapour cloud formation. Do notuse water jet. When inside buildings or confined spaces, ensure adequate ventilation. Transfer collected product and other contaminated materials to suitable containers for recovery or safe disposal.		
6.4 Reference to other sections	See Section 1: For emergency contact information. See Section 8: For information on appropriate personal protective equipment.See Section 13: For additional waste treatment information.		
Section 7: Handling and Storage			
7.1 Advice on general information – hygiene, storage	Obtain special instructions before use. Keep away from heat / sparks / open flames/hot surfaces. No smoking. Use and store only outdoors or in a well-ventilated area. Hazard of slipping on spilt product. Avoid release to the environment.		
7.2 Conditions for safe storage including any incompatibilities	Storage area layout, tank design, equipment and operating procedures must comply with the relevant regional, national or local legislation. Storage installations should be designed with adequate bunds incase of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Store separately from oxidising agents. Keep only in the original container or in a suitable container for this kind of product. Keep container tightly closed and sealed until ready for use. Do not store in unlabelled containers. Containers that havebeen opened must be carefully resealed and kept upright to prevent leakage. Empty containers may contain harmful, flammable / combustible or explosive residue or vapours. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards. Protect from sunlight.		
7.3 Specific end use(s) – Recommendations	Not available		

Section 8: Exposure Controls / Personal Protection		
The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the		
Exposure Scenario(s).		
8.1 Control parameters		
Occupational exposure limits		
Product / Ingredient name	Distillates, mixture of hydrocarbons	
Exposure limits values	AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes. Form: mist and fume [Air contaminant]. AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes. Form: mist and fume.	

	required.		
8.2 Exposure control Appropriate engineering controls	Mechanical ventilation and local exhaust will reduce exposure via the air. Use oil resistant material in construction of handling equipment. Store under		
	recommended conditions and if heated, temperature control equipment		
	should be used to avoid overheating.		
Individual protection measures			
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before reuse.		
Eye / face protection	Recommended: Safety glasses with side shields.		
Skin protection			
Hand protection	4 – 8 hours (breakthrough time): nitrile rubber.		
Body protection	Wear protective clothing if there is a risk of skin contact. Change contaminated clothes at the end of working shift.		
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.		
Respiratory protection	Respirator selection must be based on known or anticipated exposure levels, the hazards of the productand the safe working limits of the selected respirator. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.		
Environmental exposure control	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.		
Section 9: Physical and Chemical Properti			
Appearance	Clear		
Physical state	Liquid		
Colour	Brownish		
Odor	Petroleum odor		
Odour threshold	Not available		
pH	Not applicable		
Pour point	<-6 °C (ASTM D 97)		
Flash point	> 240 °C		
Evaporation rate	Not available		
Flammability (solid, gas)	Not available		
Flammability limits in air (lower), % by volume	Not available		
Flammability limits in air (upper), % by volume	Not available		
Vapour pressure	≤ 0,1 hPa (20 °C) (Mineral oil, ASTM D 5191) (CONCAWE, 2010)		
Density Solubility (ies)	0.88 max at 15 °C		
Solubility (water)	Insoluble in water		
Partition coefficient (n-octanol/water)	Not available		
Decomposition temperature	No data		
Auto-ignition temperature	>300 °C		
Kinematic viscosity at 40 °C (104 °F)	320 cSt (ASTM D 445) (Typical Value)		
Explosive properties	No data		
Oxidising properties	No data		

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No data

Oxidising properties

		Saf	etv Data-Sheet		
DMSO extractable comp	ounds for base oi	l Not available	e		
substance(s)according to		<3 %	-		
Section 10: Stability and	Reactivity				
10.1 Reactivity		No specific t ingredients.	test data related to react	ivity available for this pr	oduct or its
10.2 Chemical stability		Stable under	r normal conditions		
10.3 Possibility of hazard	ous reactions	Under norma	al conditions of storage	e and use, hazardous read	ctions will not occur.
		Oxidising ag	gent.		
10.4 Conditions to avoid			from extreme heat and		
10.5 Incompatible materi	als			give rise to a complex m	
10.6 Hazardous decompo	sition products	H ₂ S, SO _x (su		es, gases, including carbo uric acid andunidentifie	
SECTION 11: Toxicologi	cal Information				
11.1 Information on toxic	ological effects				
Acute toxicity					
Product / ingredient name	Resu	lt	Species	Dose	Exposure
Distillate	LC 50 Inhalat and mi		Rat	>2.18mg/l	4 hours
(Petroleum), hydro treated heavy	LD 50 De	ermal	Rabbit	> 5000 mg/kg	—
paraffinic	LD 50 (Dral	Rat	>15000 mg/kg	-
Irritation / corrosion					
Skin					
Eye		No known si	ignificant effects or crit	ical hazards.	
Respiratory					
Sensation					
Skin Respiratory		No known si	ignificant effects or crit	ical hazards.	
Mutagenicity			ilable to indicate produ 0.1 % aremultigene o	ict or any components p or genotoxic.	resent
Carcinogenicity			· · · · · · · · · · · · · · · · · · ·	sed on an severely h <mark>ydr</mark> o	treated distillate.
Reproductive toxicity			should not be regarde		
		as toxic to re	Contains no ingredient	t listed	
Specific target organ toxic exposure	city – single	Not classifie	•		
Specific target organ toxic exposure	ity – repeated				
Aspiration hazard		Aspiration hazard – Category 1			
Information on likely routes of exposure		Not available			
Potential acute health effect					
Eye contact		Eye contact may cause redness and transient pain.			
Inhalation		Inhalation of irritation.	f oil mist or vapours at	elevated temperatures m	ay cause respiratory
Skin contact		No known si	ignificant effects or crit	ical hazards.	
Ingestion		May be fatal	if swallowed and enter	rs airways.	
Potential chronic health ef	fects				
General		No known si	ignificant effects or crit	ical hazards.	

Carcinogenicity	The base oil(s) in this product is based on an severely hydrotreated distillate. The
	product should not beregarded as a carcinogen.

Mutagenicity			
Teratogenicity			
Product / ingredient name	No known significant effects or critical hazards.		
Fertility effects			
Other information Specific hazard	Not available		
Section 12: Ecological Information			
12.1 Toxicity	Not expected to be harmful to aquatic organisms.		
12.2 Persistence and degradability	Not inherently biodegradable.		
12.3 Bioaccumulative potential	Bioaccumulation is unlikely to be significant because of the low water solubility		
	of this product.		
12.4 Mobility in soil	Not considered mobile.		
12.5 Results of PBT & vPvB assessment	Not applicable		
12.6 Other adverse effects	Insoluble in water. Spills may form a film on water surfaces causing physical		
	damage to organisms. Oxygen transfer could also be impaired.		
Section 13: Disposal Considerations			
The information in this section contains gen	eric advice and guidance. The list of Identified Uses in Section 1 should be		
consulted for any available use-specific info	ormation provided in the Exposure Scenario(s).		
	Where possible (e.g. in the absence of relevant contamination), recycling of		
	used substance is feasible and recommended. This substance can be burned		
Product Methods of disposal	or incinerated, subject to national/local		

	authorisations, relevant contamination limits, safety regulations and air quality		
	legislation. Contaminated or waste substance (not directly recyclable): Disposal		
	can be carried out directly, or by delivery to qualified waste handlers. National		
	legislation may identify a specific organisation, and/or prescribe composition		
	limits and methods for recovery or disposal		
Hazardous waste	Yes		
European waste catalogue (EWC) Waste	Waste designation.		
Code 13 03 07*			
Packaging	Mineral-based non-chlorinated insulating and heat transmission oils.		
Methods of disposal	The generation of waste should be avoided or minimised wherever possible.		

considered when recycling is not feasible.

Waste packaging should berecycled. Incineration or landfill should only be

Methods of disposal

Section 14: Transport Information International transport regulations

International transport regulat	tions			
	ADR / RID	ADN	IMO / IMDG Classification	ICAO / IATA Classification
14.1 UN number	Not regulated	Not regulated	Not regulated	Not regulated
14.2 UN proper shipping name	—	-	—	—
14.3 Transport hazard class(es)	—	—	—	—
14.4 Packing group	—	—	—	—
14.5 Environmental hazards	No	No	No	No
Additional Information	—	—	—	—
14.6 Special precautions for user oils				
14.7 Transport in bulk according to Annex I of MARPOL 73/78 and the IBC Code				
Section 15: Regulatory Information				

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture EU Regulation (EC) No.

1907/2006 (REACH)			
Annex XIV – List of substances subject to authorisation Annex XIV Substances of very high concern	None of the components are listed		
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.	Not applicable		
International Lists National Inventory	Inventory name		
Australia	Australian Inventory of Chemical Substances (AICS) – Yes		
Canada	Domestic Substances List (DSL) – Yes		
Callada	Non-Domestic Substances List (NDSL) – No		
China	Inventory of Existing Chemical Substances in China (IECSC) – Yes		
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS) – Yes		
	European List of Notified Chemical Substances (ELINCS) – No		
Japan	Inventory of Existing and New Chemical Substances (ENCS) – Yes		
Korea	Existing Chemicals List (ECL) – Yes		
New Zealand	New Zealand Inventory – Yes		
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS) – Yes		
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory – Yes		
governing country(s)	this product comply with the inventory requirements administered by the ents of the product are not listed or exempt from listing on the inventory		
Revision comments			
Legend to abbreviations			
ADR	European agreement concerning the international carriage of dangerous good by road.		
RID	Regulations agreement concerning the international carriage of dangerous good by rail.		
IMDG Code	International Maritime Dangerous Goods Code.		
ICAO	International Civil Aviation Organization.		
ΙΑΤΑ	International Air Transport Association.		
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.		
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No.1272/2008].		
SCBA	Self-Contained Breathing Apparatus.		
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006].		
LC 50	Median lethal concentration.		
LD 50	Median lethal dose.		
PBT	Persistent, Bio accumulative and Toxic.		

Regulation (EC) no 1907/2006, Annex II as Amended by Commission Regulation (EU) 2015/830

Disclaimer: Information contained in this material data sheet is believed to be reliable, but no representation, guarantee or warranties of any kind made as to its accuracy, suitability for a particular application or results to be obtained from them. It is up to the manufacturer / seller to ensure that the information content in the material data sheet is relevant to the product manufactured / handled or sold by, as the case may be. R K PETROLEUMS makes no warranties expressed or implied in respect of the adequacyof this document for any particular purpose.

ARKO Gear Oil ZN 460

Section 1: Identification of the Substance / M	Tivtura		
1.1 Product identifier			
Product name	ARKO Gear Oil ZN 460		
Product description	Industrial Gear Box Oil		
!	Industrial Gear Box OII		
Product type			
MARPOL Annex-1 1.2 Identified uses	ماد ماد ماد		
Distribution of substance	Industrial		
Formulation & (re)packing of substance &	Industrial		
mixtures	Industrial		
Manufacture of substance	Industrial		
Functional fluids	Industrial		
Section 2: Hazard Identification			
4-	Health	1	
Extrem	Flammability	1	
e3-	Reactivity	0	
	Special		
High			
2-Moderate			
1-Slight			
Section 3: Compostion / Information on Ing			
Product / Ingredient name	CAS No.: Not applicable for Distillates (Petroleum) mix	ture of hydro-treated hydrocarbons.	
Section 4: First Aid Measures			
Inhalation exposure	Remove to fresh air & prov	vide oxygen, if breathing is difficult. Contact physician	
Skin contact	Remove contaminated clothing. Flush skin with water. Wash skin thoroughly with mild soap & water. If irritation occurs, call a physician.		
Swallowing or other	Do not induce vomiting. In general no treatment is necessary unless large quantities are ingested. Get medical advice.		
Eye contact	Rinse continuously with water for several minutes. Get medical attention, if irritation persists.		
Protection first-aiders	Disconnecting electrical supply. Ensure adequate ventilation and check that a safe and breathing area is available before entry into confined spaces.		
Section 5: Fire Fighting Measures	sinte and oreaning area isa		
5.1 Extinguishing media			
Unsuitable extinguishing media	Use dry powder, foam, carbon dioxide. Do not use direct water and wet chemicals, or water on theburning product. They may spread the fire. Use foam simultaneously on the surface.		
5.2 Special hazards arising from the substa			
Hazards from the substance or mixture	Flammable liquids in pressurised containers may rupture and when exposed to heat, creating a highly flammable vapour cloud.		
Hazardous thermal decomposition products	Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide, H_2S , SO_x (sulphur oxides) or sulphuric acid and unidentified organic and inorganic compounds.		
5.3 Advice for firefighters			
Special precautions for firefighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Noaction shall be taken involving any personal risk or without suitable training.		

	Firefighters should wear appropriate protective equipment and self-contained
Special protective equipment for firefighters	s breathing apparatus (SCBA) with a full face- piece operated in positive pressure
	mode. Clothing for firefighters (including helmets, protective boots and gloves)
	conforming to European standard EN 469 will provide a basic level of
	protection for chemical incidents.

Section 6: Accidental Release Measures	8
6.1 Personal precautions, protective eq	
	Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the
For non-emergency personnel	 emergency. Stop leak if safe to do so. Avoid direct contact with the product. Stay upwind / keep distance from source. In case of large spillages, alert occupants in downwind areas. Eliminate all ignition sources if safe to do so. Spillages of limited amounts of product, especially in the open air when vapours will be usually quickly dispersed, are dynamic situations, which will presumably limit the exposure to dangerous concentrations. Note : Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave / current direction and speed) may significantly influence the choice of appropriate actions.
For emergency responders	For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken. Small spillages: Normal antistatic working clothes are usually adequate. Large spillages: Full body suit of chemically resistant and thermal resistant material should be used. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons. Note: Gloves made of PVA are not water-resistant, and are not suitable for
	emergency use. Safety helmet, antistatic non-skid safety shoes or boots. Goggles and / or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory Protection : A half or full-face respirator with filter(s) for organic vapours (and when applicable for H ₂ S) a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.
	Prevent product from entering sewers, rivers or other bodies of water. If necessary dike the product with dry earth, sand or similar non-combustible materials. In case of soil contamination, remove contaminated soil and treat in
6.2 Environmental precautions	 accordance with local regulations. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities.
6.3 Methods and material for containn	nent and cleaning up
Small spill	Stop leak if without risk. Absorb spilled product with suitable non-combustible materials.
Large spill	Large spillages may be cautiously covered with foam, if available, to limit vapou cloud formation. Do notuse water jet. When inside buildings or confined spaces, ensure adequate ventilation. Transfer collected product and other contaminated

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	materials to suitable containers for recovery or safe disposal.
6.4 Reference to other sections	See Section 1: For emergency contact information. See Section 8: For information on appropriate personal protective equipment. See Section 13: For additional waste treatment information.
Section 7: Handling and Storage	
7.1 Advice on general information – hygiene, storage	Obtain special instructions before use. Keep away from heat / sparks / open flames/hot surfaces. No smoking. Use and store only outdoors or in a well-ventilated area. Hazard of slipping on spilt product. Avoid release to the environment.
7.2 Conditions for safe storage including any incompatibilities	 Storage area layout, tank design, equipment and operating procedures must comply with the relevant regional, national or local legislation. Storage installations should be designed with adequate bunds incase of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Store separately from oxidising agents. Keep only in the original container or in a suitable container for this kind of product. Keep container tightly closed and sealed until ready for use. Do not store in unlabelled containers. Containers that havebeen opened must be
7.3 Specific end use(s) – Recommendations	carefully resealed and kept upright to prevent leakage. Empty containers may contain harmful, flammable / combustible or explosive residue or vapours. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards. Protect from sunlight. Not available
Section 8: Exposure Controls / Personal Pro	
Exposure Scenario(s).	ald be consulted for any available use-specific information provided in the
8.1 Control parameters	
Occupational exposure limits	
Product / Ingredient name	Distillates, mixture of hydrocarbons
Exposure limits values	AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes.Form: mist and fume [Air contaminant]. AFS 2015:7 (Sweden, 12/2015). TWA: 1 mg/m ³ 8 hours. Form: mist and fume STEL: 3 mg/m ³ 15 minutes.Form: mist and fume.
Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres – Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents)European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents
	formethods for the determination of hazardous substances will also be required.

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8.2 Exposure control Appropriate engineering controls	Mechanical ventilation and local exhaust will reduce exposure via the air. Use oil resistant material in construction of handling equipment. Store under recommended conditions and if heated, temperature control equipment should be used to avoid overheating.		
Individual protection measures			
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before reuse.		
Eye / face protection	Recommended: Safety glasses with side shields.		
Skin protection			
Hand protection	4 – 8 hours (breakthrough time): nitrile rubber.		
Body protection	Wear protective clothing if there is a risk of skin contact. Change contaminated clothes at the end of working shift.		
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.		
Respiratory protection	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.		
Environmental exposure control	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.		
Section 9: Physical and Chemical Properti	ies		
Appearance	Clear		
Physical state	Liquid		
Colour	Brownish		
Odor	Petroleum odor		
Odour threshold	Not available		
pH	Not applicable		
Pour point	<-6 °C (ASTM D 97)		
Flash point	> 250 °C		
Evaporation rate	Not available		
Flammability (solid, gas)	Not available		
Flammability limits in air (lower), % by volume	Not available		
Flammability limits in air (upper), % by volume	Not available		
Vapour pressure	≤ 0,1 hPa (20 °C) (Mineral oil, ASTM D 5191) (CONCAWE, 2010)		
Density Solubility (ies)	0.88 max at 15 °C		
Solubility (water)	Insoluble in water		
Partition coefficient (n-octanol/water)	Not available		
Decomposition temperature	No data		
Auto-ignition temperature	>300 °C		
Kinematic viscosity at 40 °C (104 °F)	460 cSt (ASTM D 445) (Typical Value)		
Explosive properties	No data		
Oxidising properties	No data		

		Saf	etv Data-Sheet			
DMSO extractable comp	ounds for base oi	l Not available	e			
substance(s)according to IP346		<3 %	-			
Section 10: Stability and	Reactivity					
		No specific test data related to reactivity available for this product or its ingredients.				
10.2 Chemical stability		Stable under	r normal conditions			
10.3 Possibility of hazard	ous reactions	Under norma	Under normal conditions of storage and use, hazardous reactions will not occur.			
		Oxidising agent.				
10.4 Conditions to avoid		Keep away from extreme heat and oxidising agents.				
10.5 Incompatible materi	als			give rise to a complex n		
10.6 Hazardous decomposition products		airborne solid and liquid particulates, gases, including carbon monoxide, H_2S , SO_x (sulphur oxides) or sulphuric acid and unidentified organic and inorganic compounds.				
SECTION 11: Toxicologi	cal Information					
11.1 Information on toxic	cological effects					
Acute toxicity						
Product / ingredient name	Resu	lt	Species	Dose	Exposure	
Distillate	LC 50 Inhalat and mi		Rat	>2.18mg/l	4 hours	
(Petroleum), hydro treated heavy	LD 50 De	ermal	Rabbit	> 5000	—	
paraffinic	LD 500)1	D.4	mg/kg		
	LD 50 (Drai	Rat	>15000 mg/kg	-	
Irritation / corrosion				IIIB, KB		
Skin						
Eye		No known si	gnificant effects or crit	ical hazards.		
Respiratory						
Sensation						
Skin		No known significant effects or critical hazards.				
Respiratory			-			
Mutagenicity		No data available to indicate product or any components present greater than 0.1 % are multigene or genotoxic.				
Carcinogenicity		The base oil(s) in this product is based on an severely hydrotreated distillate.				
Reproductive toxicity		The product should not be regarded as a				
		carcinogen. Contains no ingredient listed as toxic to reproduction.				
Specific target organ toxicity – single exposure		Not classified				
Specific target organ toxic	ity – repeated					
exposure						
Aspiration hazard		Aspiration hazard – Category 1				
Information on likely routes of exposure		Not available				
Potential acute health effects						
Eye contact		Eye contact may cause redness and transient pain.				
Inhalation		Inhalation of oil mist or vapours at elevated temperatures may cause respiratory irritation.				
Skin contact		No known significant effects or critical hazards.				
		May be fatal if swallowed and enters airways.				
Potential chronic health ef	iects	No known -	anificant offects or and	ical hazarda		
General		μνο known si	gnificant effects or criti	ical nazafus.		

Carcinogenicity	The base oil(s) in this product is based on an severely hydrotreated distillate. The		
	product should not beregarded as a carcinogen.		

Mutagenicity	No known significant effects or critical hazards.		
Teratogenicity			
Product / ingredient name			
Fertility effects			
Other information Specific hazard	Not available		
Section 12: Ecological Information			
12.1 Toxicity	Not expected to be harmful to aquatic organisms.		
12.2 Persistence and degradability	Not inherently biodegradable.		
12.3 Bioaccumulative potential	Bioaccumulation is unlikely to be significant because of the low water solubili of this product.		
12.4 Mobility in soil	Not considered mobile.		
12.5 Results of PBT & vPvB assessment	Not applicable		
12.6 Other adverse effects	Insoluble in water. Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.		
Section 13: Disposal Considerations			
The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be			
consulted for any available use-specific information provided in the Exposure Scenario(s).			
Product Methods of disposal Where possible (e.g. in the absence of relevant contamination), recyclused substance is feasible and recommended. This substance can be loor incinerated, subject to national/local authorisations, relevant contamination limits, safety regulations and a			

legislation. Contaminated or waste substance (not directly recyclable): Disposal can be carried out directly, or by delivery to qualified waste handlers. National legislation may identify a specific organisation, and/or prescribe composition limits and methods for recovery or disposal Yes

European waste catalogue (EWC) Waste Code 13 03 07*	Waste designation.
Packaging	Mineral-based non-chlorinated insulating and heat transmission oils.
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste packaging should berecycled. Incineration or landfill should only be considered when recycling is not feasible.

Section 14: Transport Information

Hazardous waste

International transport regulations				
	ADR / RID	ADN	IMO / IMDG Classification	ICAO / IATA Classification
14.1 UN number	Not regulated	Not regulated	Not regulated	Not regulated
14.2 UN proper shipping name	—	_	—	_
14.3 Transport hazard class(es)	_	_	—	_
14.4 Packing group	—	—	_	—
14.5 Environmental hazards	No	No	No	No
Additional Information	—	—	_	—
14.6 Special precautions for user oils				
14.7 Transport in bulk according to Annex I of MARPOL 73/78 and the IBC Code				
Section 15: Regulatory Information				

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture EU Regulation (EC) No.

1907/2006 (REACH)		
Annex XIV – List of substances subject to authorisation Annex XIV Substances of very high concern	None of the components are listed	
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.	Not applicable	
International Lists National Inventory	Inventory name	
Australia	Australian Inventory of Chemical Substances (AICS) – Yes	
Canada	Domestic Substances List (DSL) – Yes	
Callada	Non-Domestic Substances List (NDSL) – No	
China	Inventory of Existing Chemical Substances in China (IECSC) – Yes	
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS) – Yes	
	European List of Notified Chemical Substances (ELINCS) – No	
Japan	Inventory of Existing and New Chemical Substances (ENCS) – Yes	
Korea	Existing Chemicals List (ECL) – Yes	
New Zealand	New Zealand Inventory – Yes	
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS) – Yes	
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory – Yes	
governing country(s)	this product comply with the inventory requirements administered by the ents of the product are not listed or exempt from listing on the inventory	
Revision comments		
Legend to abbreviations		
ADR	European agreement concerning the international carriage of dangerous good by road.	
RID	Regulations agreement concerning the international carriage of dangerous good by rail.	
IMDG Code	International Maritime Dangerous Goods Code.	
ICAO	International Civil Aviation Organization.	
ΙΑΤΑ	International Air Transport Association.	
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.	
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No.1272/2008].	
SCBA	Self-Contained Breathing Apparatus.	
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulation[Regulation (EC) No. 1907/2006].	
LC 50	Median lethal concentration.	
LD 50	Median lethal dose.	
PBT	Persistent, Bio accumulative and Toxic.	

Regulation (EC) no 1907/2006, Annex II as Amended by Commission Regulation (EU) 2015/830

Disclaimer: Information contained in this material data sheet is believed to be reliable, but no representation, guarantee or warranties of any kind made as to its accuracy, suitability for a particular application or results to be obtained from them. It is up to the manufacturer / seller to ensure that the information content in the material data sheet is relevant to the product manufactured / handled or sold by, as the case may be. R K PETROLEUMS makes no warranties expressed or implied in respect of the adequacyof this document for any particular purpose.





MANUFACTURERS OF:-

- ♦ HYDRAULIC OILS
- ♦ CUTTING OILS
- ♦ MACHINE OILS

- SILICONE EMULSION
- ✤ GREASES
- ✤ GEAR OILS

TRADERS & MARKETERS OF:-

- ✤ LUBRICATING OILS
- ✤ L.D.O & FURNACE OIL
- ✤ RUBBER PROCESS OILS
- ✤ BASE OILS

- ✤ PETROLEUM JELLY
- WAXES
- ✤ INDUSTRIAL SOLVENTS
- PLASTISIZERS

✤ ALL TYPES OF RAW RUBBER

COMMUNICATION ADDRESS :-

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