Puma Energy Australia

Chemwatch: **71-8029** Version No: **3.1.1.1**

Safety Data Sheet according to WHS and ADG requirements

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	Puma HD Plus 15W40 Cl-4+
Synonyms	Engine oil for Diesel or Gasoline, Formula No: EPT-G120
Other means of identification	Not Available
Relevant identified uses of the substance or mixture and uses advised against	

Relevant identified uses

Details of the supplier of the safety data sheet

Four cycle engine oil.

Registered company name	Puma Energy Australia
Address	365 Macarthur Avenue Hamilton QLD 4007 Australia
Telephone	1300 723 706
Fax	1300 723 321
Website	www.Pumaenergy.com
Email	PumaAu-Safety@pumaenergy.com

Emergency telephone number

Association / Organisation	Chemwatch Emergency Line 24/7
Emergency telephone numbers	1800 039 008
Other emergency telephone numbers	1800 24 88 66 (Purna Energy Bitumen Technical Helpline)

CHEMWATCH EMERGENCY RESPONSE

Primary Number	Alternative Number 1	Alternative Number 2
1800 039 008	1800 039 008	+612 9186 1132

Once connected and if the message is not in your prefered language then please dial 01

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

NON-HAZARDOUS CHEMICAL. NON-DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

CHEMWATCH HAZARD RATINGS

	Min	Max	
Flammability	1 📃		
Toxicity	0		0 = Minimum
Body Contact	1		1 = Low
Reactivity	1		3 = High
Chronic	0	1	4 = Extreme

Poisons Schedule	Not Applicable
Classification	Not Applicable
Label elements	
Hazard pictogram(s)	Not Applicable
SIGNAL WORD	NOT APPLICABLE

Hazard statement(s)

Not Applicable

Precautionary statement(s) Prevention Not Applicable

Precautionary statement(s) Response

Chemwatch Hazard Alert Code: 1

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
8012-95-1.	85-90	paraffin oils
Not Available	10-15	additives

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	 If this product comes in contact with the eyes: Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Inhalation	 If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.
Ingestion	 Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

+ Heavy and persistent skin contamination over many years may lead to dysplastic changes. Pre-existing skin disorders may be aggravated by exposure to this product.

• In general, emesis induction is unnecessary with high viscosity, low volatility products, i.e. most oils and greases.

+ High pressure accidental injection through the skin should be assessed for possible incision, irrigation and/or debridement.

NOTE: Injuries may not seem serious at first, but within a few hours tissue may become swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Product may be forced through considerable distances along tissue planes.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog Large fires only.

Special hazards arising from the substrate or mixture

Fire Incompatibility	Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
Advice for firefighters	
Fire Fighting	 Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Use water delivered as a fine spray to control fire and cool adjacent area. Avoid spraying water onto liquid pools. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire.
Fire/Explosion Hazard	 Combustible. Slight fire hazard when exposed to heat or flame. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO). May emit acrid smoke. Mists containing combustible materials may be explosive. Combustion products include: , carbon dioxide (CO2) , other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes. CARE: Water in contact with hot liquid may cause foaming and a steam explosion with wide scattering of hot oil and possible severe burns. Foaming may

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cause overflow of containers and may result in possible fire.

CHEM Not Applicable

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	 Slippery when spilt. Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Place in a suitable, labelled container for waste disposal.
Major Spills	 Slippery when spilt. Moderate hazard. Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water course. No smoking, naked lights or ignition sources. Increase ventilation. Stop leak if safe to do so. Collect recoverable product into labelled containers for recycling. Absorb remaining product with sand, earth or vermiculite. Collect solid residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains. If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

	*	
Safe handling	 DO NOT allow clothing wet with material to stay in contact with skin Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use. Avoid physical damage to containers. Always wash hands with scop and water after handling. Work clothes should be laundered separately. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions. 	
Other information	 Store in original containers. Keep containers securely sealed. No smoking, naked lights or ignition sources. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS. 	
Conditions for safe storage, including any incompatibilities		

Suitable container	 Metal can or drum Packaging as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
Storage incompatibility	CARE: Water in contact with heated material may cause foaming or a steam explosion with possible severe burns from wide scattering of hot material. Resultant overflow of containers may result in fire. ► Avoid reaction with oxidising agents

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

INGREDIENT DATA

Ingredient	Material name		TWA	STEL	Peak		Notes
paraffin oils	Oil mist, refined m	ineral	5 mg/m3	Not Available	Not Availa	ıble	Not Available
Material name		TEEL-1		TEEL-2		TEEL-3	
Not Available		Not Available		Not Available		Not Availa	ble
Original IDLH				Revised IDLH			
2,500 mg/m3			Not Available				
Not Available			Not Available				
	Ingredient paraffin oils Material name Not Available Original IDLH 2,500 mg/m3 Not Available	Ingredient Material name paraffin oils Oil mist, refined m Material name Material name Not Available Original IDLH 2,500 mg/m3 Not Available	Ingredient Material name paraffin oils Oil mist, refined meral Material name TEEL-1 Not Available Not Available Original IDLH 2,500 mg/m3 Not Available Vertical meral	Ingredient Material name TWA paraffin oils Oil mist, refined mireral 5 mg/m3 Material name TEEL-1 TEEL-1 Not Available Not Available Original IDLH 2,500 mg/m3 Vertical material ma	Ingredient Material name TWA STEL paraffin oils Oil mist, refined meral 5 mg/m3 Not Available Material name TEEL-1 TEEL-2 Material name Not Available Not Available Not Available Not Available Revised IDLH 2,500 mg/m3 Not Available Not Available	Ingredient Material name TWA STEL Peak paraffin oils Oil mist, refined meral 5 mg/m3 Not Available Not Available Material name TEEL-1 TEEL-2 TEEL-2 Not Available Not Available Not Available Not Available Original IDLH Evised IDLH Revised IDLH 1000000000000000000000000000000000000	Ingredient Material name TWA STEL Peak paraffin oils Oil mist, refined meral 5 mg/m3 Not Available Not Available Material name TEEL-1 TEEL-2 TEEL-3 Not Available Not Available Not Available Not Available Original IDLH Evised IDLH Revised IDLH 2,500 mg/m3 Not Available Not Available

MATERIAL DATA

Exposure controls

	Engineering controls are used to remove a hazard or place a barrier between the worker and the I highly effective in protecting workers and will typically be independent of worker interactions to prove the basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the ris Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away fro "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if design match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure. Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to et An approved self contained breathing apparatus (SCBA) may be required in some situations. Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in t in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the	aazard. Well-designed engineerin vide this high level of protection. k. m the worker and ventilation that s led properly. The design of a venti Correct fit is essential to obtain a nsure adequate protection. he workplace possess varying "e contaminant.	g controls can be strategically "adds" and lation system must dequate protection. scape" velocities which,	
	Type of Contaminant:		Air Speed:	
	solvent, vapours, degreasing etc., evaporating from tank (in still air).		0.25-0.5 m/s (50-100 f/min.)	
Appropriate engineering	aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transf acid fumes, pickling (released at low velocity into zone of active generation)	ers, welding, spray drift, plating	0.5-1 m/s (100-200 f/min.)	
controls	direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas into zone of rapid air motion)	discharge (active generation	1-2.5 m/s (200-500 f/min.)	
	grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial rapid air motion).	velocity into zone of very high	2.5-10 m/s (500-2000 f/min.)	
	Within each range the appropriate value depends on:			
	Lower end of the range	Upper end of the range		
	1: Room air currents minimal or favourable to capture	1: Disturbing room air currents	ts	
	2: Contaminants of low toxicity or of nuisance value only. 2: Contaminants of high toxicity			
	3: Intermittent, low production.	3: High production, heavy use		
	4: Large hood or large air mass in motion	4: Small hood-local control only		
	Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.		decreases with the cordingly, after n/s (200-400 f/min) for formance deficits within ms are installed or	
Personal protection				
Eye and face protection	 Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be readily available. In the event of chemical exposure, begin eye irrigation i a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent] 			
Skin protection	See Hand protection below			
Hands/feet protection	 Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. 			

	Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:
	frequency and duration of contact,
	chemical resistance of glove material,
	glove thickness and
	· dexterity
	Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).
	When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than
	240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
	When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to
	EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
	Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.
	Contaminated gloves should be replaced.
	For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.
	It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of
	the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task
	requirements and knowledge of breakthrough times.
	Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data
	should always be taken into account to ensure selection of the most appropriate glove for the task.
	Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:
	Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are
	only likely to give short duration protection and would normally be just for single use applications, then disposed of.
	. Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion
	or puncture potential
	Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is
	recommended.
Body protection	See Other protection below
	► Overalls.
	► P.V.C. apron.
Other protection	► Barrier cream.
	► Skin cleansing cream.
	▶ Eye wash unit.
Thormal bazarde	Not Available
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Respiratory protection

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	A-AUS P2	-	A-PAPR-AUS / Class 1 P2
up to 50 x ES	-	A-AUS / Class 1 P2	-
up to 100 x ES	-	A-2 P2	A-PAPR-2 P2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content. The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Appearance Bright colour liquid with hydrocarbon odour; not miscible with water.		
Physical state	Liquid	Relative density (Water = 1)	0.8731
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature	Not Available
Melting point / freezing point (°C)	-36	Viscosity (cSt)	14.8
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	226	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	Not normally a hazard due to non-volatile nature of product Inhalation of oil droplets/ aerosols may cause discomfort and may produce chemical pneumonitis.		
Ingestion	Ingestion may result in nausea, abdominal irritation, pain and diarrhoea		
Skin Contact	Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis. Open cuts, abraded or irritated skin should not be exposed to this material The material may accentuate any pre-existing dermatitis condition Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.		
Eye	Limited evidence exists, or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals and/or is expected to produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.		
Chronic	Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. Principal route of exposure is by skin contact; lesser exposures include inhalation of fumes from hot oils, oil mists or droplets. Prolonged contact with mineral oils carries with it the risk of skin conditions such as oil folliculitis, eczematous dermatitis, pigmentation of the face (melanosis) and warts on the sole of the foot (plantar warts). With highly refined mineral oils no appreciable systemic effects appear to result through skin absorption. Exposure to oil mists frequently elicits respiratory conditions, such as asthma; the provoking agent is probably an additive. High oil mist concentrations may produce lipoid pneumonia although clinical evidence is equivocal. In animals exposed to concentrations of 100 mg/m3 oil mist, for periods of 12 to 26 months, the activity of lung and serum alkaline phosphatase enzyme was raised; 5 mg/m3 oil mist did not produce this response. These enzyme changes are sensitive early indicators of lung damage. Workers exposed to vapours of mineral oil and kerosene for 5 to 35 years showed an increased prevalence of slight procise.		
Puma HD Plus 15W40 CI-4+	TOXICITY		
	Not Available	Not Available	
	ΤΟΧΙCΙΤΥ	IRRITATION	
paraffin oils	paraffin oils Inhalation (rat) LC50: 2059.647258 mg//4H ^[2] Eye (rabbit): 500 mg moderate		
		Skin (rabbit): 100 mg/24h mild	
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acut data extracted from RTECS - Register of Toxic Effect of chemical Su	e toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified bstances	
PARAFFIN OILS	The materials included in the Lubricating Base Oils category are related the potential toxicity of a specific distillate base oil is inversely related the adverse effects of these materials are associated with unders The levels of the undesirable components are inversely related the Distillate base oils receiving the same degree or extent of proces. The potential toxicity of <i>residual base oils</i> is independent of the components are inversely related to The reproductive and developmental toxicity of the distillate base. Unrefined & mildly refined distillate base oils contain the highest levelopmental toxicity of the distillate base. Unrefined will be the productive and developmental toxicity of the distillate base. Unrefined distillate base oils have a smaller range of hydrocarbic carcinogenicity testing of residual oils have a smaller range of hydrocarbic carcinogenic to the site of the to their molecular size. Toxicity testing has consistently shown that lubricating base oils have mutagenic and carcinogenic potential correlates with its 3-7 ring poly IP346 assay), both characteristics that are directly related to the deg Highly and Severely Refined Distillate Base Oils Acute toxicity . Multiple studies of the acute toxicity of highly & severely method or extent of processing, the oral LD50s have been observed LC50 for inhalation toxicity ranged from 2.18 mg/l to> 4 mg/l.	ted from both process and physical-chemical perspectives; d to the severity or extent of processing the oil has undergone, since: irrable components, and o the degree of processing; ssing will have similar toxicites; legree of processing the oil receives. oils is inversely related to the degree of processing. Is of undesirable components, have the largest variation of hydrocarbon molecules tivities. Highly and severely refined distillate base oils are produced from unrefined onents. In comparison to unrefined and mildly refined base oils, the highly and on molecules and have demonstrated very low mammalian toxicity. Mutagenicity and the belief that these materials lack biologically active components or the components low acute toxicities. Numerous tests have shown that a lubricating base oil's rcyclic aromatic compound (PAC) content, and the level of DMSO extractables (e.g. ree/conditions of processing	

	When tested for skin and eye irritation, the materials have been reported as "non-irritating" to "moderately irritating"			
	Testing in guinea pigs for sensitization has been negative	e Tara da Malada da Sura Marina da Statuta de Cara da		
	Repeat dose toxicity: . Several studies have been condu	cepear dose toxicity: . Several studies have been conducted with these dis The weight of evidence from all available data on highly a severely relined has a distributed base off is traversely related to the dentee of processing it reactines. Adverse affects have been		
	reported with even the most severely refined white oils - the	so the support are present processing in receives. Adverse effects have been sorted with even the most severely refined white oils - these appear to depend on animal species and/ or the peculiarities of the study.		
	The granulomatous lesions induced by the oral admir	nistration of white oils are essentially for	aign body responses. The lesions occur only in rats, of	
	which the Fischer 344 strain is particularly sensitive.			
	 The testicular effects seen in rabbits after demail administration of a highly to severely refined base oil were unique to a single study and may have been 			
	related to stress induced by skin irritation, and	lar appage of rate eveneed repeatedly vi	a inholation to high lovale of highly to coversly refined base	
	The accumulation of roarny macrophages in the alveo oils is not unique to these oils, but would be seen after	revocure to many water insoluble mate	a initialation to high levels of highly to severely fellined base	
	Reproductive and developmental toxicity: A highly re	fined base oil was used as the vehicle c	control in a one-generation reproduction study. The study	
	was conducted according to the OECD Test Guideline 42	1. There was no effect on fertility and ma	ating indices in either males or females. At necropsy, there	
	were no consistent findings and organ weights and histopa	thology were considered normal by the s	study's authors.	
	A single generation study in which a white mineral oil (a fo	od/ drug grade severely refined base oil) was used as a vehicle control is reported. Two separate	
	groups of pregnant rats were administered 5 ml/kg (bw)/da	ay of the base oil via gavage, on days 6 t	hrough 19 of gestation. In one of the two base oil dose	
	groups, three malformed foetuses were found among three	e litters The study authors considered the	ese malformations to be minor and within the normal	
	ranges for the strain of rat.			
	UPROTOCICITY: In vitro (mitagonicitu): Soveral studies have reported the results of testing different base oils for mutagonicity using a modified Ames assay. Base oils with			
	no or low concentrations of 3-7 ring PACs had low mutage	enicity indices.		
	In vivo (chromosomal aberrations): A total of seven base s	stocks were tested in male and female S	prague-Dawley rats using a bone marrow cytogenetics	
	assay. The test materials were administered via gavage a	t dose levels ranging from 500 to 5000 r	ng/kg (bw). Dosing occurred for either a single day or for	
	five consecutive days. None of the base oils produced a s	ignificant increase in aberrant cells.		
	Carcinogenicity: Highly & severely refined base oils are	not carcinogens, when given either oral	ly or dermally.	
	Equivocal tumorigen by RTECS criteria			
Acute Toxicity	\otimes	Carcinogenicity	\otimes	
Skin Irritation/Corrosion	\odot	Reproductivity	\odot	
Serious Eye Damage/Irritation	0	STOT - Single Exposure	0	
Respiratory or Skin	0	STOT - Poperted Exposure	0	
sensitisation		STOT - Repeated Exposure	8	
Mutagenicity	\otimes	Aspiration Hazard	\otimes	
		Legend: 🗙 – 🛙	Data available but does not fill the criteria for classification	
		🖌 – L	Data available to make classification	

🚫 – Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Puma HD Plus 15W40 Cl-4+	ENDPOINT TEST DURATION (HR) Not Available Not Available	SPECIES Not Available	VALUE SOURCE Not Not Available Available
paraffin oils	ENDPOINT TEST DURATION (HR)	SPECIES	VALUE SOURCE
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe Ed	CHA Registered Substances - Ecotoxicological Informa	tion - Aquatic Toxicity 3. EPIWIN Suite V3.12

(QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative	potential
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Ingredient	Bioaccumulation
	No Data available for all ingredients
Mobility in soil	

Ingredient Mobility No Data available for all ingredients

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods		
Product / Packaging disposal	 DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority. 	

 Recycle wherever possible or consult manufacturer for recycling options.
 Consult State Land Waste Authority for disposal.
Bury or incinerate residue at an approved site.
 Recycle containers if possible, or dispose of in an authorised landfill.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

PARAFFIN OILS(8012-95-1.) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards Australia Hazardous Substances Information System - Consolidated Lists Australia Inventory of Chemical Substances (AICS) International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (paraffin oils)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (paraffin oils)
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Other information

Ingredients with multiple cas numbers

Name	CAS No
paraffin oils	8012-95-1., 8043-78-5, 37231-69-9, 37232-05-6, 188832-17-9, 79956-36-8, 172307-10-7, 58615-80-8, 187112-19-2, 219686-29-0, 261380-10-3, 74870-90-9, 97048-20-9, 58391-38-1, 331464-54-1, 99551-14-1, 8039-75-6, 8039-14-3, 8038-04-8, 8033-89-4, 60327-80-2, 39464-77-2, 39290-23-8, 83046-05-3, 51004-58-1, 39296-25-8, 50935-95-0, 122176-99-2, 39464-78-3, 51109-96-7, 39355-35-6, 39355-09-4, 39355-08-3, 106803-31-0, 115251-26-8, 116357-36-9, 50935-85-8, 37232-07-8, 146908-77-2, 37232-06-7, 53028-74-3, 52012-28-9, 52012-27-8, 8015-59-6, 102819-98-7

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC – TWA: Permissible Concentration-Time Weighted Average PC – STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit.

IDLH: Immediately Dangerous to Life or Health Concentrations

OSF: Odour Safety Factor

NOAEL : No Observed Adverse Effect Level

LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value

LOD: Limit Of Detection OTV: Odour Threshold Value

BCF: BioConcentration Factors

BEI: Biological Exposure Index

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