AK45 Ultra Finishing Pad Glaze Auto Klene Solutions

Chemwatch: **5250-75** Version No: **5.1.1.1** Safety Data Sheet according to WHS and ADG requirements Chemwatch Hazard Alert Code: 2

Issue Date: 01/11/2019 Print Date: 01/02/2021 S.GHS.AUS.EN

SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier		
Product name	AK45 Ultra Finishing Pad Glaze	
Chemical Name	Not Applicable	
Synonyms	Not Available	
Chemical formula	Not Applicable	
Other means of identification	Not Available	

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Use according to manufacturer's directions.
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Details of the supplier of the safety data sheet

Registered company name	Auto Klene Solutions	
Address	1/83 Merrindale Drive Croydon VIC 3136 Australia	
Telephone	+61 3 8761 1900	
Fax	61 3 8761 1955	
Website	http://www.autoklene.com/msds/	
Email	Not Available	

Emergency telephone number

Association / Organisation	Auto Klene Solutions
Emergency telephone numbers	131 126 (Poisons Information Centre)
Other emergency telephone numbers	0800 764 766 (New Zealand Poisons Information Centre)

SECTION 2 Hazards identification

Classification of the substance or mixture

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

ChemWatch Hazard Ratings

	Min	Max	
Flammability	1 📃		
Toxicity	1 📕	1	0 = Minimum
Body Contact	2	1	1 = Low
Reactivity	0		2 = Moderate
Chronic	0		3 = High 4 = Extreme

Poisons Schedule	Not Applicable	
Classification ^[1]	Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation)	
Legend:	1. Classified by Chernwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI	

Label elements



Signal word

Warning

Hazard statement(s)

H315	Causes skin irritation.
H319	Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statement(s) Prevention

P271	Use only outdoors or in a well-ventilated area.
P261	Avoid breathing mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement(s) Response

P321	Specific treatment (see advice on this label).	
P362	Take off contaminated clothing and wash before reuse.	
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
P312	Call a POISON CENTER or doctor/physician if you feel unwell.	
P337+P313	If eye irritation persists: Get medical advice/attention.	
P302+P352	IF ON SKIN: Wash with plenty of water.	
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.	

Precautionary statement(s) Storage

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P405	Store locked up.	
P403+P233	Store in a well-ventilated place. Keep container tightly closed.	

Precautionary statement(s) Disposal

P501 Dispo

Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
1344-28-1.	10-30	aluminium oxide
8042-47-5	<10	white mineral oil (petroleum)
56-81-5	<10	glycerol
64742-47-8	<10	distillates, petroleum, light, hydrotreated
8001-79-4	<1	castor oil
102-71-6	<1	triethanolamine
7732-18-5	>50	water

SECTION 4 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 or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor, without delay.
Ingestion	 If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

- Manifestation of aluminium toxicity include hypercalcaemia, anaemia, Vitamin D refractory osteodystrophy and a progressive encephalopathy (mixed dysarthria-apraxia of speech, asterixis, tremulousness, myoclonus, dementia, focal seizures). Bone pain, pathological fractures and proximal myopathy can occur.
- Symptoms usually develop insidiously over months to years (in chronic renal failure patients) unless dietary aluminium loads are excessive.
 Serum aluminium levels above 60 ug/ml indicate increased absorption. Potential toxicity occurs above 100 ug/ml and clinical symptoms are present when levels exceed 200

ug/ml.

Deferoxamine has been used to treat dialysis encephalopathy and osteomalacia. CaNa2EDTA is less effective in chelating aluminium. [Ellenhorn and Barceloux: Medical Toxicology]

other pyrolysis products typical of burning organic material.

SECTION 5 Firefighting measures

Extinguishing media

The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas.

Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances. In such an event consider:

- foam.
- dry chemical powder.
- carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.		
Advice for firefighters			
Fire Fighting	 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 courses. Use water delivered as a fine spray to control fire and cool adjacent area. 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) acrolein hydrogen chloride hydrogen fluoride 		

SECTION 6 Accidental release measures

HAZCHEM

Personal precautions, protective equipment and emergency procedures

Not Applicable

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	 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	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.

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. DO NOT allow material to contact humans, exposed food or food utensils. Avoid contact with incompatible materials.

	 Store in original containers. Keep containers securely sealed. No smoking, naked lights or ignition sources.
Other information	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	Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

I	INGREDIENT	DATA
	INCINEDIENT	

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	aluminium oxide	Aluminium oxide	10 mg/m3	Not Available	Not Available	(a) This value is for inhalable dust containing no asbestos and < 1% crystalline silica.
Australia Exposure Standards	white mineral oil (petroleum)	Oil mist, refined mineral	5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	glycerol	Glycerin mist	10 mg/m3	Not Available	Not Available	 (a) This value is for inhalable dust containing no asbestos and < 1% crystalline silica.
Australia Exposure Standards	distillates, petroleum, light, hydrotreated	Oil mist, refined mineral	5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	triethanolamine	Triethanolamine	5 mg/m3	Not Available	Not Available	Not Available

Emergency Limits					
Ingredient	Material name			TEEL-2	TEEL-3
aluminium oxide	Aluminum oxide; (Alumina)			170 mg/m3	990 mg/m3
white mineral oil (petroleum)		Mineral oil, heavy or light; (paraffin oil; Deobase, deodorized; heavy paraffinic; heavy naphthenic); distillates; includes 64741-53-3, 64741-88-4, 8042-47-5, 8012-95-1; 64742-54-7			8,900 mg/m3
glycerol	Glycerine (mist); (Glycerol; Glycerin)	Glycerine (mist); (Glycerol; Glycerin)			1,100 mg/m3
distillates, petroleum, light, hydrotreated		Mineral oil, heavy or light; (paraffin oil; Deobase, deodorized; heavy paraffinic; heavy naphthenic); distillates; includes 64741-53-3, 64741-88-4, 8042-47-5, 8012-95-1; 64742-54-7			8,900 mg/m3
triethanolamine	Triethanolamine; (Trihydroxytriethylamine)			240 mg/m3	1,500 mg/m3
Ingredient	Original IDLH	Revised IDLH			
aluminium oxide	Not Available	Not Available	Not Available		
white mineral oil (petroleum)	2,500 mg/m3	Not Available			
glycerol	Not Available	Not Available	Not Available		
distillates, petroleum, light, hydrotreated	2,500 mg/m3	Not Available			
castor oil	Not Available	Not Available			
triethanolamine	Not Available	Not Available			
water	Not Available	Not Available	Not Available		
Occupational Exposure Bandi	ng				
Ingredient	Occupational Exposure Band Rating	Occupational Exposure	Band Limit		
castor oil	E	E ≤ 0.1 ppm			
Notes:	Occupational exposure banding is a process of assigning	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the			

adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

Exposure controls

	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:
Appropriate engineering	Process controls which involve changing the way a job activity or process is done to reduce the risk.
controls	Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically
	"adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a
	ventilation system must match the particular process and chemical or contaminant in use.
	Employers may need to use multiple types of controls to prevent employee overexposure.

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.
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 moisturiser is recommended.

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Body protection	See Other protection below		
Other protection	 Overalls. P.V.C apron. Barrier cream. Skin cleansing cream. Eye wash unit. 		

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С С

С

С

С

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С

Recommended material(s)

GLOVE SELECTION INDEX

Material BUTYL

NEOPRENE

NITRILE

PVA

PVC

VITON

NATURAL RUBBER NATURAL+NEOPRENE

NEOPRENE/NATURAL

Glove selection is based on a modified presentation of the: **"Forsberg Clothing Performance Index".** The effect(s) of the following substance(s) are taken into account in the *computer-generated* selection: AK45 Ultra Finishing Pad Glaze

Respiratory protection

Type AK-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	AK-AUS P2	-	AK-PAPR-AUS / Class 1 P2
up to 50 x ES	-	AK-AUS / Class 1 P2	-
up to 100 x ES	-	AK-2 P2	AK-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)

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

SECTION 9 Physical and chemical properties

nformation on basic physical and chemical properties			
Appearance	Off white, creamy thick liquid with a little odour; mixes with water. Viscosity: 6500-7500 cps (20degC)		
Physical state	Liquid	Relative density (Water = 1)	0.95-1.10
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	8-9	Decomposition temperature	Not Available
Melting point / freezing point (°C)	0	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	>95	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	Miscible	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

ormation on toxicological ef	fects		
Inhaled	Not normally a hazard due to non-volatile nature of product The material can cause respiratory irritation in some persons. The bo Inhalation of vapours or aerosols (mists, fumes), generated by the m of the individual.	ody's response to such irritation can cause further lung damage. aterial during the course of normal handling, may be damaging to the health	
Ingestion	Accidental ingestion of the material may be damaging to the health or Ingestion may result in nausea, abdominal irritation, pain and vomitir		
Skin Contact	This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions 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	This material can cause eye irritation and damage in some persons.		
Chronic	Long-term exposure to respiratory irritants may result in airways dise There has been some concern that this material can cause cancer of Substance accumulation, in the human body, may occur and may can Exposure to large doses of aluminium has been connected with the or	mutations but there is not enough data to make an assessment. use some concern following repeated or long-term occupational exposure.	
	ΤΟΧΙΟΙΤΥ	IRRITATION	
AK45 Ultra Finishing Pad Glaze	Dermal (Rabbit) LD50: >2000 mg/kg ^[2]	Not Available	
, , , , , , , , , , , , , , , , , , ,	Oral (Rat) LD50: >5000 mg/kg ^[2]		
	τοχιςιτγ	IRRITATION	
aluminium oxide	Oral(Rat) LD50; >2000 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1]	
		Skin: no adverse effect observed (not irritating) ^[1]	
	тохісіту	IRRITATION	
	Dermal (rabbit) LD50: >2000 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1]	
white mineral oil (petroleum)	Oral(Rat) LD50; >5000 mg/kg ^[1]	Skin: adverse effect observed (irritating) ^[1]	
		Skin: no adverse effect observed (not irritating) ^[1]	
	тохісіту	IRRITATION	
glycerol	dermal (guinea pig) LD50: 58.5 mg/kg ^[1]	Not Available	
	Oral(Rabbit) LD50; 0.027 mg/kg ^[2]		
	тохісіту	IRRITATION	
distillates, petroleum, light,	Dermal (rabbit) LD50: >2000 mg/kg ^[2]	Eye: no adverse effect observed (not irritating) ^[1]	
hydrotreated	Inhalation(Rat) LC50; >5.2 mg/l4hrs ^[2]	Skin: adverse effect observed (irritating) ^[1]	
	Oral(Rat) LD50; >5000 mg/kg ^[2]		
	τοχιςιτγ	IRRITATION	
	Толопт		

		Skin (human): 50 mg/48h mild
		Skin (rabbit): 100 mg/24h SEVERE
	ΤΟΧΙΟΙΤΥ	IRRITATION
	dermal (rat) LD50: >0.002 mg/kg ^[2]	Eye (rabbit): 0.1 ml -
	Oral(Rat) LD50; 0.007 mg/kg ^[2]	Eye (rabbit): 10 mg - mild
		Eye (rabbit): 5.62 mg - SEVERE
triethanolamine		minor conjunctival irritation
		no irritation *
		Skin (human): 15 mg/3d (int)-mild
		Skin (rabbit): 4 h occluded
		Skin (rabbit): 560 mg/24 hr- mild
		'
water	TOXICITY Oral(Rat) LD50; >90 mg/kg ^[2]	IRRITATION Not Available
Legend:	 Value obtained from Europe ECHA Registered Substa specified data extracted from RTECS - Register of Toxic 	nces - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise Effect of chemical Substances
WHITE MINERAL OIL (PETROLEUM)	 The reproductive and developmental toxicity of t Unrefined & mildly refined distillate base oils contain the molecules and have shown the highest potential cancer- are produced from unrefined and mildly refined oils by re- refined base oils, the highly and severely refined distillate low mammalian toxicity. Testing of residual oils for mutati- belief that these materials lack biologically active compor Toxicity testing has consistently shown that lubricating ba oil's mutagenic and carcinogenic potential correlates with extractables (e.g. IP346 assay), both characteristics that For highly and severely refined distillate base oils: In animal studies, the acute, oral, semilethal dose is >5g/ semilethal concentration for inhalation is 2.18 to >4 mg/L. skin and eye irritation. Testing for sensitisation has been testes and lung have been observed, as well as the form reproductive toxicity or significant increases in birth defect aberrations. Oral (rat) TCLo: 92000 mg/kg/92D-Cont. Generally the top testes and lung have been observed. 	ependent of the degree of processing the oil receives. the distillate base oils is inversely related to the degree of processing. highest levels of undesirable components, have the largest variation of hydrocarbon causing and mutation-causing activities. Highly and severely refined distillate base oils moving or transforming undesirable components. In comparison to unrefined and mild a base oils have a smaller range of hydrocarbon molecules and have demonstrated ve on-causing and cancer-causing potential has shown negative results, supporting the nents or the components are largely non-bioavailable due to their molecular size. ase oils have low acute toxicities. Numerous tests have shown that a lubricating base its 3-7 ring polycyclic aromatic compound (PAC) content, and the level of DMSO are directly related to the degree/conditions of processing. //kg body weight and the semilethal dose by skin contact is >2g/kg body weight. The The materials have varied from "non-irritating" to "moderately irritating" when tested for negative. The effects of repeated exposure vary by species; in animals, effects to the ation of granulomas. In animals, these substances have not been found to cause cts. They are also not considered to cause cancer, mutations or chromosome exicity and irritation is of low order. White oils and highly/solvent refined oils have not stent skin contamination with some other mineral oils, due in all probability to refining
GLYCEROL		rol may cause tremor, irritation of the skin, eyes, digestive tract and airway. Otherwise est that it causes cancer, genetic, reproductive or developmental toxicity.
DISTILLATES, PETROLEUM, LIGHT, HYDROTREATED	Animal studies indicate that normal, branched and cyclic n-paraffins is inversely proportional to the carbon chain le be present in mineral oil, n-paraffins may be absorbed to The major classes of hydrocarbons are well absorbed int hydrocarbons are ingested in association with fats in the gut lymph, but most hydrocarbons partly separate from fa determining the proportion of hydrocarbon that becomes or the liver. Kerosene may produce varying ranges of skin irritation, a leathery, with crusts and/or hair loss. It may worsen skin	paraffins are absorbed from the gastrointestinal tract and that the absorption of ength, with little absorption above C30. With respect to the carbon chain lengths likely
CASTOR OIL	following administration of high doses (salivation, diarrho in any study In some studies, excess test substance and/ Skin and eye irritation potential, with a few stated excepti According to several OECD test regimes the animal skin corrosive, while the C12 aliphatic acid is irritating, and the Human skin irritation studies using more realistic exposu good or very good skin compatibility. Animal eye irritation studies indicate that among the aliph acids are not irritating.	than >2000 mg/kg bw Clinical signs were generally associated with poor condition ea, staining, piloerection and lethargy). There were no adverse effects on body weigh /or irritation in the gastrointestinal tract was observed at necropsy. ions, is chain length dependent and decreases with increasing chain length irritation studies indicate that the C6-10 aliphatic acids are severely irritating or e C14-22 aliphatic acids generally are not irritating or mildly irritating. Irres (30-minute,1-hour or 24-hours) indicate that the aliphatic acids have sufficient, natic acids, the C8-12 aliphatic acids are irritating to the eye while the C14-22 aliphatic ollow chain length dependence; the C18 ammonium salts are corrosive to the eyes.

Continued...

Repeated dose oral (gavage or diet) exposure to aliphatic acids did not result in systemic toxicity with NOAELs greater than the limit dose of

1000 ma/ka bw. Mutagenicity Aliphatic acids do not appear to be mutagenic or clastogenic in vitro or in vivo Carcinogenicity No data were located for carcinogenicity of aliphatic fatty acids. Reproductive toxicity No effects on fertility or on reproductive organs, or developmental effects were observed in studies on aliphatic acids and the NOAELs correspond to the maximum dose tested. The weight of evidence supports the lack of reproductive and developmental toxicity potential of the aliphatic acids category. Given the large number of substances in this category, their closely related chemical structure, expected trends in physical chemical properties, and similarity of toxicokinetic properties, both mammalian and aquatic endpoints were filled using read-across to the closest structural analogue, and selecting the most conservative supporting substance effect level. Structure-activity relationships are not evident for the mammalian toxicity endpoints. That is, the low mammalian toxicity of this category of substances limits the ability to discern structural effects on biological activity. Regardless, the closest structural analogue with the most conservative effect value was selected for read across. For group E aliphatic esters (polvol esters): The polyol esters, including trimethylolpropane (TMP). Pentaerythritol (PE) and dipentaerythritol (diPE) are unique in their chemical characteristics since they lack beta-tertiary hydrogen atoms, thus leading to stability against oxidation and elimination. Therefore their esters with C5-C10 fatty acids have applications as artificial lubricants. Because of their stability at high temperatures, they are also used in high temperature applications such as industrial oven chain oils, high temperature greases, fire resistant transformer coolants and turbine engines. Polyol esters that are extensively esterified also have greater polarity, less volatility and enhanced lubricating properties. Acute toxicity: Animal studies show relatively low toxicity by swallowing. These esters are hydrolysed in the gastrointestinal tract, and studies have not shown evidence of these accumulating in body tissues. Acute toxicity by skin contact was also found to be low. Repeat dose toxicity: According to animal testing, polyol esters show a low level of toxicity following repeated application, either by swallowing or by skin contact. Reproductive and developmental toxicity: This group should not produce profound reproductive effects in animals. Genetic toxicity: Tests have shown this group to be inactive. It is unlikely that these substances cause mutations. Cancer-causing potential: No association between this group of substances and cancer. For triglycerides: Carboxylic acid esters will undergo enzymatic hydrolysis by ubiquitously expressed GI esterases. The rate of hydrolysis is dependant on the structure of the ester, and may therefore be rapid or rather slow. Thus, due to hydrolysis, predictions on oral absorption based on the physicochemical characteristics of the intact parent substance alone may no longer apply. When considering the hydrolysis product glycerol, absorption is favoured based on passive and active absorption of glycerol. The Cosmetic Ingredient Review (CIR) Expert Panel has issued three final reports on the safety of 25 triglycerides, i.e., fatty acid triesters of glycerin High purity is needed for the triglycerides. Previously the Panel published a final report on a diglycerides, and concluded that the ingredients in the diglyceride family are safe in the present practices of use and concentration provided the content of 1,2-diesters is not high enough to induce epidermal hyperplasia. The Panel discussed that there was an increased level of concern because of data regarding the induction of protein kinase C (PKC) and the tumor promotion potential of 1,2-diacylglycerols. The Panel noted that, nominally, glyceryl-1,3-diesters contain 1,2-diesters, raising the concern that 1,2-diesters could potentially induce hyperplasia. The Panel did note that these compounds are more likely to cause these effects when the fatty acid chain length is <=14 carbons, when one fatty acid is saturated and one is not, and when given at high doses, repeatedly. Although minimal percutaneous absorption of triolein has been demonstrated in vivo using guinea pigs (but not hairless mice) and in vitro using full-thickness skin from hairless mice, the Expert Panel recognizes that, reportedly, triolein and tricaprylin can enhance the skin penetration of other chemicals, and recommends that care should be exercised in using these and other glyceryl triesters in cosmetic products. The Panel acknowledged that some of the triglycerides may be formed from plant-derived or animal-derived constituents. The Panel thus expressed concern regarding pesticide residues and heavy metals that may be present in botanical ingredients. They stressed that the cosmetics industry should continue to use the necessary procedures to sufficiently limit amounts of such impurities in an ingredient before blending them into cosmetic formulations. Additionally, the Panel considered the risks inherent in using animal-derived ingredients, namely the transmission of infectious agents. Some tumorigenic effects have been reported in animal studies using castor oil The castor seed contains ricin, a toxic protein. Heating during the oil extraction process denatures and inactivates the protein. However, harvesting castor beans may not be without risk. Allergenic compounds found on the plant surface can cause permanent nerve damage, making the harvest of castor beans a human health risk. The United States Food and Drug Administration (FDA) has categorized castor oil as "generally recognized as safe and effective" (GRASE) for over-the-counter use as a laxative with its major site of action the small intestine where it is digested into ricinoleic acid. Despite castor oil being widely used to start labor in pregnant women, to date there is not enough research to show whether it is effective to ripen the cervix or induce labour Due to its foul taste a heavy dose of castor oil was formerly used as a humiliating punishment for children and adults. Victims of this treatment did sometimes die, as the dehydrating effects of the oil-induced diarrhea; however, even those victims who survived had to bear the humiliation of the laxative effects resulting from excessive consumption of the oil. Several instances of sensitization to castor oil in cosmetics have been reported, including an allergic reaction to a make-up remover and contact dermatitis caused by use of a lipstick containing castor oil . Hypersensitivity reactions such as angioedema, rhinitis, asthma, and scarlatiniform rashes have been reported in factory workers involved in the extraction of castor oil , or in association with ingesting it . Relatively few studies of castor oil toxicity have been conducted with experimental animals, and no studies were located concerning its absorption, distribution, metabolism, or excretion.. The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested. Overexposure to most of these materials may cause adverse health effects. Many amine-based compounds can cause release of histamines, which, in turn, can trigger allergic and other physiological effects, including constriction of the bronchi or asthma and inflammation of the cavity of the nose. Whole-body symptoms include headache, nausea, faintness, TRIETHANOLAMINE anxiety, a decrease in blood pressure, rapid heartbeat, itching, reddening of the skin, urticaria (hives) and swelling of the face, which are usually transient. There are generally four routes of possible or potential exposure: inhalation, skin contact, eye contact, and swallowing. Inhalation: Inhaling vapours may result in moderate to severe irritation of the tissues of the nose and throat and can irritate the lungs. Higher concentrations of certain amines can produce severe respiratory irritation, characterized by discharge from the nose, coughing, difficulty in breathing and chest pain. Chronic exposure via inhalation may cause headache, nausea, vomiting, drowsiness, sore throat, inflammation of the bronchi and lungs, and possible lung damage. Repeated and/or prolonged exposure to some amines may result in liver disorders, jaundice and liver enlargement. Some amines have been shown to cause kidney, blood and central nervous system disorders in animal studies.

While most polyurethane amine catalysts are not sensitisers, some certain individuals may also become sensitized to amines and my experience distress while breathing, including asthma-like attacks, whenever they are subsequently exposed to even very small amounts of vapours. Once sensitized, these individuals must avoid any further exposure to amines.

	 The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Studies done show that triethanolamine is of low toxicity following high dose exposure by swallowing, skin contact or inhalation. It has not been shown to cause cancer, genetic defects, reproductive or developmental toxicity. A Cosmetic Ingredient Review (CIR) expert panel conducted a review of triethanolamine-containing personal care products The panel was concerned with the levels of free diethanolamine that could be present as an impurity in TEA or TEA-containing ingredients. The panel stated that the amount of free diethanolamine available must be limited to the present practices of use and concentration of diethanolamine. The Panel concluded that TEA and 31 related TEA-containing ingredients, are safe when formulated to be nonirritating and when the levels of free diethanolamine do not exceed the prescribed levels. These ingredients should not be used in cosmetic products in which N-nitroso compounds can be formed. Dermal carcinogenicity studies performed by the NTP on TEA reported equivocal evidence of carcinogenic activity in male mice based on the occurrence of liver hemangiosarcoma, some evidence of carcinogenic activity in female mice based on increases in the incidence of real tubule cell adenoma. It has been hypothesized that TEA may cause liver tumours in mice via a choline-depletion mode of action. Humans are much less sensitive to this deficiency, and these hepatic findings are considered to have little relevance to humans regarding the safety of the use of TEA in personal care products. The panel was concerned that the potential exists for dermal irritation with the use of products					
ALUMINIUM OXIDE & DISTILLATES, PETROLEUM, LIGHT, HYDROTREATED & CASTOR OIL & WATER	No significant acute toxicological data identified in literature search.					
WHITE MINERAL OIL (PETROLEUM) & TRIETHANOLAMINE	The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing.					
GLYCEROL & TRIETHANOLAMINE	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.					
Acute Toxicity	×	Carcinogenicity	×			
Skin Irritation/Corrosion	✓	Reproductivity	×			
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✓			
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×			
Mutagenicity	× Aspiration Hazard ×					

Legend: 🗙 –

Data either not available or does not fill the criteria for classification
 Data available to make classification

SECTION 12 Ecological information

Toxicity

AK45 Ultra Finishing Pad Glaze	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96	Fish	0.295684mg/L	2
aluminium oxide	EC50	48	Crustacea	0.7364mg/L	2
	EC50	96	Algae or other aquatic plants	0.0054mg/L	2
	NOEC	72	Algae or other aquatic plants	>=0.004mg/L	2
	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96	Fish	1.13mg/L	2
white mineral oil (petroleum)	EC50	48	Crustacea	2mg/L	2
	NOEL	504	Crustacea	Crustacea >=1mg/L	
	Endpoint	Test Duration (hr)	Species	Value	Source
glycerol	LC50	96	Fish	>11mg/L	2

	NOEL	48		Not Available		12ug/cm	4
	Endpoint	Test Duration (hr)		Species		Value	Source
	LC50	96		Fish		2.2-mg/L	4
distillates, petroleum, light, hydrotreated	EC50	48		Crustacea		1.4mg/L	2
nyuroireateu	EC50	72		Algae or other aquatic plants		3.7mg/L	2
	NOEL	96		Algae or other aquatic plants		0.2mg/L	2
	Endpoint	Test Duration (hr)		Species		Value	Source
	EC50	48		Crustacea		>100mg/L	2
castor oil	EC50	72		Algae or other aquatic plants		>100mg/L	2
	NOEC	72		Algae or other aquatic plants		100mg/L	2
	Endpoint	Test Duration (hr)	Specie	9S	Value		Source
	LC50	96	Fish		-0.0010607-0.0	013007mg/L	4
totation density	EC50	48	Crustacea -56		-565.2-658.3m	g/L	4
triethanolamine	EC50	72	Algae	or other aquatic plants	>107-<260mg/	L	2
	EC10	96	Algae	or other aquatic plants	7.1mg/L		1
	NOEC	504	Crusta	cea	16mg/L		1
	Endpoint	Test Duration (hr)		Species		Value	Source
water	Not Available	Not Available		Not Available		Not Available	Not Available
Legend:	V3.12 (QSAR)	n 1. IUCLID Toxicity Data 2. Europe ECHA) - Aquatic Toxicity Data (Estimated) 4. US (Japan) - Bioconcentration Data 7. METI (J	EPĂ, Eco	tox database - Aquatic Toxicity Da	ta 5. ECETOC Aq		

for lubricating oil base stocks:

Vapor Pressure Vapor pressures of lubricating base oils are reported to be negligible. In one study, the experimentally measured vapour pressure of a solvent-dewaxed heavy paraffinic distillate base oil was 1.7 x 10exp-4 Pa . Since base oils are mixtures of C15 to C50 paraffinic, naphthenic, and aromatic hydrocarbon isomers, representative components of those structures were selected to calculate a range of vapor pressures. The estimated vapor pressure values for these selected components of base oils ranged from 4.5 x 10exp-1 Pa to 2 x 10exp-13Pa. Based on Dalton's Law the expected total vapour pressure for base oils would fall well below minimum levels (10exp-5 Pa) of recommended experimental procedures

Partition Coefficient (log Kow): In mixtures such as the base oils, the percent distribution of the hydrocarbon groups (i.e., paraffins, naphthenes, and aromatics) and the carbon chain lengths determines in-part the partitioning characteristics of the mixture. Generally, hydrocarbon chains with fewer carbon atoms tend to have lower partition coefficients than those with higher carbon numbers. However, due to their complex composition, unequivocal determination of the log Kow of these hydrocarbon mixtures cannot be made.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
glycerol	LOW	LOW
triethanolamine	LOW	LOW
water	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
glycerol	LOW (LogKOW = -1.76)
distillates, petroleum, light, hydrotreated	LOW (BCF = 159)
triethanolamine	LOW (BCF = 3.9)
water	LOW (LogKOW = -1.38)

Mobility in soil

Ingredient	Mobility
glycerol	HIGH (KOC = 1)
triethanolamine	LOW (KOC = 10)
water	LOW (KOC = 14.3)

SECTION 13 Disposal considerations

Waste treatment methods Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate:

Product / Packaging disposal

- Reduction
- Reuse
- Recycling Disposal (if all else fails)

	This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be	
	appropriate.	
	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		

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

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group	
aluminium oxide	Not Available	
white mineral oil (petroleum)	Not Available	
glycerol	Not Available	
distillates, petroleum, light, hydrotreated	Not Available	
castor oil	Not Available	
triethanolamine	Not Available	
water	Not Available	

Transport in bulk in accordance with the ICG Code

Product name	Ship Type
aluminium oxide	Not Available
white mineral oil (petroleum)	Not Available
glycerol	Not Available
distillates, petroleum, light, hydrotreated	Not Available
castor oil	Not Available
triethanolamine	Not Available
water	Not Available

SECTION 15 Regulatory information

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

aluminium oxide is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

Chemical Footprint Project - Chemicals of High Concern List

white mineral oil (petroleum) is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans

glycerol is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

distillates, petroleum, light, hydrotreated is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australian Inventory of Industrial Chemicals (AIIC)

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans

castor oil is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

triethanolamine is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5 Australian Inventory of Industrial Chemicals (AIIC) International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

water is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

National Inventory Status

National Inventory	Status		
Australia - AIIC / Australia Non-Industrial Use	Yes		
Canada - DSL	Yes		
Canada - NDSL	No (aluminium oxide; white mineral oil (petroleum); glycerol; distillates, petroleum, light, hydrotreated; castor oil; triethanolamine; water)		
China - IECSC	Yes		
Europe - EINEC / ELINCS / NLP	Yes		
Japan - ENCS	No (white mineral oil (petroleum))		
Korea - KECI	Yes		
New Zealand - NZIoC	Yes		
Philippines - PICCS	Yes		
USA - TSCA	Yes		
Taiwan - TCSI	Yes		
Mexico - INSQ	Yes		
Vietnam - NCI	Yes		
Russia - ARIPS	Yes		
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)		

SECTION 16 Other information

Revision Date	01/11/2019
Initial Date	18/04/2017

SDS Version Summary

Version	Issue Date	Sections Updated
2.1.1.1	18/04/2017	Acute Health (inhaled), Fire Fighter (extinguishing media), Fire Fighter (fire incompatibility), Handling Procedure, Ingredients, Personal Protection (Respirator), Toxicity and Irritation (Toxicity Figure)
5.1.1.1	01/11/2019	One-off system update. NOTE: This may or may not change the GHS classification

Other information

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.