Auto Klene Solutions

Chemwatch: 73-5414

Version No: 7.1.1.1 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	Auto Klene Emulsa 70	
Synonyms	Not Available	
Proper shipping name	FLAMMABLE LIQUID, N.O.S. (contains solvent naphtha petroleum, light aliphatic)	
Other means of identification	Not Available	

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

Relevant identified uses Wa	x tar Greaser Remover
-----------------------------	-----------------------

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. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

CHEMWATCH HAZARD RATINGS

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

Poisons Schedule	S5	
Classification ^[1]	Flammable Liquid Category 2, Acute Toxicity (Oral) Category 4, Eye Irritation Category 2A, Skin Sensitizer Category 1, Reproductive Toxicity Category 2, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Specific target organ toxicity - repeated exposure Category 2, Aspiration Hazard Category 1, Chronic Aquatic Hazard Category 2	
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI	

Label elements

SIGNAL WORD DANGER

Hazard statement(s)

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.

Chemwatch Hazard Alert Code: 3

Issue Date: 08/07/2019 Print Date: 08/07/2019 S.GHS.AUS.EN

H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.		
H335	May cause respiratory irritation.		
H373	May cause damage to organs through prolonged or repeated exposure.		
H304	May be fatal if swallowed and enters airways.		
H411	Toxic to aquatic life with long lasting effects.		
AUH019	May form explosive peroxides.		
Precautionary statement(s) Prevention			
P201	Obtain special instructions before use.		
P210	Keep away from heat/sparks/open flames/hot surfaces No smoking.		
P260	Do not breathe dust/fume/gas/mist/vapours/spray.		
P271	Use only outdoors or in a well-ventilated area.		
P280	Wear protective gloves/protective clothing/eye protection/face protection.		

Precautionary statement(s) Response

P240

P241

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P331	Do NOT induce vomiting.
P363	Wash contaminated clothing before reuse.
P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam for extinction.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary statement(s) Storage

P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

Precautionary statement(s) Disposal

Dispose of contents/container in accordance with local regulations.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

P501

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
64742-89-8.	60-80	solvent naphtha petroleum, light aliphatic
9016-45-9	10-30	nonylphenol ethoxylates
5989-27-5	5-15	d-limonene
7732-18-5	balance	water
Not Available	<100	Ingredients determined not to be hazardous

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 furnes 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.

 Avoid giving mills of bits. Avoid giving alcohol. If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

Indication of any immediate medical attention and special treatment needed

For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:

- Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.
- Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO2 50 mm Hg) should be intubated.
- Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
- A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.
- + Lavage is indicated in patients who require decontamination; ensure use of cuffed endotracheal tube in adult patients. [Ellenhorn and Barceloux: Medical Toxicology]

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours. Treat symptomatically.

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. May be violently or explosively reactive. Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water course. Consider evacuation (or protect in place). Fight fire from a safe distance, with adequate cover. If safe, switch off electrical equipment until vapour fire hazard removed. 		
Fire/Explosion Hazard	 Liquid and vapour are highly flammable. Severe fire hazard when exposed to heat, flame and/or oxidisers. Vapour may travel a considerable distance to source of ignition. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO). Combustion products include: carbon dioxide (CO2) other pyrolysis products typical of burning organic material. Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions. May emit clouds of acrid smoke WARNING: Long standing in contact with air and light may result in the formation of potentially explosive peroxides. 		
HAZCHEM	•3YE		

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	 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 small quantities with vermiculite or other absorbent material. Wipe up. Collect residues in a flammable waste container.
Major Spills	 Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. May be violently or explosively reactive. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water course. Consider evacuation (or protect in place).

No smoking, naked lights or ignition sources.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling	I
Safe handling	 Containers, even those that have been emptied, may contain explosive vapours. Do NOT cut, drill, grind, weld or perform similar operations on or near containers. Contains low boiling substance: Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately. Check for bulging containers. Vent periodically Always release caps or seals slowly to ensure slow dissipation of vapours DO NOT allow clothing wet with material to stay in contact with skin Electrostatic discharge may be generated during pumping - this may result in fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generations. The substance accumulates peroxides which may become hazardous only if it evaporates or is distilled or otherwise treated to concentrate the peroxides. Porthases of peroxidisable chemicals should be restricted to ensure that the chemical is used completely before it can become peroxidised. A responsible person should maintain an inventory of peroxidisable chemicals or annotate the general chemical inventory to indicate which chemicals are subject to peroxidisable chemical should be determined. The chemical should either be treated to remove peroxides or disposed of before this date. The person or laboratory receiving the chemical should record a receipt date on the bottle. 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 elect confined spaces until atmosphere has been checked. Avoid all personal contact, including infalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hol
Other information	 Store in original containers in approved flame-proof area. No smoking, naked lights, heat or ignition sources. DO NOT store in pits, depressions, basements or areas where vapours may be trapped. Keep containers securely sealed. Store away from incompatible materials in a cool, dry well ventilated area. 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	 Packing as supplied by manufacturer. Plastic containers may only be used if approved for flammable liquid. Check that containers are clearly labelled and free from leaks. For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure. For materials with a viscosity of at least 2680 cSt. (23 deg. C) For manufactured product having a viscosity of at least 250 cSt. (23 deg. C) Manufactured product that requires stirring before use and having a viscosity of at least 20 cSt (25 deg. C): (i) Removable head packaging; (ii) Cans with friction closures and (iii) low pressure tubes and cartridges may be used. Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in contact with inner and outer packages In addition, where inner packagings are glass and contain liquids of packing group I there must be sufficient inert absorbent to absorb any spillage, unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.
Storage incompatibility	Avoid reaction with oxidising agents

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	solvent naphtha petroleum, light aliphatic	Oil mist, refined mineral	5 mg/m3	Not Available	Not Available	Not Available
EMERGENCY LIMITS						
Ingredient	Material name			TEEL-1	TEEL-2	TEEL-3
nonylphenol ethoxylates	Ethoxylated nonylphenol; (Nonyl phenyl polyethylene glycol ether)			1 mg/m3	11 mg/m3	260 mg/m3
d-limonene	Limonene, d-			15 ppm	67 ppm	170 ppm
Ingredient	Original IDLH		Revised IDLH			
solvent naphtha petroleum, light aliphatic	2,500 mg/m3		Not Available			
nonylphenol ethoxylates	Not Available		Not Available			
d-limonene	Not Available		Not Available			

water	Not Available	Not Available			
Exposure controls					
Appropriate engineering controls	CARE: Use of a quantity of this material in confined space or poorly ventilated area, where rapid build up of concentrated atmosphere may occur, could require increased ventilation and/or protective gear 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: Process controls which involve changing the way a job activity or process is done to reduce the risk. 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 NOTE: The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. 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 wom 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				
Other protection	 Overalls. PVC Apron. PVC protective suit may be required if exposure severe. Eyewash unit. Ensure there is ready access to a safety shower. Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity. For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets). Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot an shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which they are worn. Personnel who have been issued conductive footwear should not wear them from their place or work to their homes and return. 				

Recommended material(s)

GLOVE SELECTION INDEX

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 $\ensuremath{\textit{computer-generated}}$ selection:

Auto Klene Emulsa 70

Material	СРІ
VITON	A
BUTYL	С
NATURAL RUBBER	С
NEOPRENE	С
NITRILE	С
PVA	С

* 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.

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

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

- 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.

 Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Green coloured liquid; mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	0.9
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	*<-30(naphtha)	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.	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

Inhaled	The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation hazard is increased at higher temperatures. Inhaling high concentrations of mixed hydrocarbons can cause narcosis, with nausea, vomiting and lightheadedness. Low molecular weight (C2-C12) hydrocarbons can irritate mucous membranes and cause incoordination, giddiness, nausea, vertigo, confusion, headache, appetite loss, drowsiness, tremors and stupor. Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal. Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination. Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual. The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation.
Ingestion	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733) Ingestion of petroleum hydrocarbons can irritate the pharynx, oesophagus, stomach and small intestine, and cause swellings and ulcers of the mucous. Symptoms include a burning mouth and throat; larger amounts can cause nausea and vomiting, narcosis, weakness, dizziness, slow and shallow breathing, abdominal swelling, unconsciousness and convulsions.
Skin Contact	The material may cause mild but significant inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering. 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. Direct eye contact with petroleum hydrocarbons can be painful, and the corneal epithelium may be temporarily damaged. Aromatic species can cause irritation and excessive tear secretion.

Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Harmful: danger of serious damage to health by prolonged exposure through inhalation. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. Chronic Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin. Prolonged or repeated skin contact may cause degreasing, followed by drying, cracking and skin inflammation. TOXICITY IRRITATION Auto Klene Emulsa 70 Not Available Not Available TOXICITY IRRITATION solvent naphtha petroleum, Eye: no adverse effect observed (not irritating)^[1] Dermal (rabbit) LD50: >1900 mg/kg^[1] light aliphatic Oral (rat) LD50: >4500 mg/kg^[1] Skin: adverse effect observed (irritating)^[1] TOXICITY IRRITATION Dermal (rabbit) LD50: 1780 mg/kg^[2] Eye (rabbit): 5 mg SEVERE nonylphenol ethoxylates Oral (rat) LD50: 1310 mg/kg^[2] Skin (human): 15 mg/3D mild TOXICITY IRRITATION Dermal (rabbit) LD50: >5000 mg/kg^[2] Eye: no adverse effect observed (not irritating)^[1] d-limonene Oral (rat) LD50: >2000 mg/kg^[1] Skin (rabbit): 500mg/24h moderate Skin: no adverse effect observed (not irritating) $\left[1 \right]$ TOXICITY IRRITATION water Oral (rat) LD50: >90000 mg/kg^[2] Not Available 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified Legend:

data extracted from RTECS - Register of Toxic Effect of chemical Substances

SOLVENT NAPHTHA PETROLEUM, LIGHT ALIPHATIC	For Low Boiling Point Naphthas (LBPNs): Acute toxicity: LBPNs generally have low acute toxicity by the oral (median lethal dose [LD50] in rats > 2000 mg/kg-bw), inhalation (LD50 in rats > 5000 mg/m3) and demail (LD50 in rabbits > 2000 mg/kg-bw) routes of exposure Most LBPNs are mild to moderate eye and skin irritants in rabbits, with the exception of heavy catalytic cracked and heavy catalytic reformed naphthas, which have higher primary skin irritation indices. Sensitisation: LBPNs do not appear to be skin sensitizers, but a poor response in the positive control was also noted in these studies Repet dose toxicity: The lowest-observed-adverse-effect concentration (LOAEC) and lowest-observed-adverse-effect level (LOAEL) values identified following short-term (2-89 days) and subchronic (greater than 90 days) exposure to the LBPN substances. These values were determined for a variety of endpoints after considering the toxicity data for all LBPNs in the group. Most of the studies were carried out by the inhalation route of exposure. Renal effects, including increased kidney weight, renal lesions (renal tubule dilation, necrosis) and hyaline droplet formation, observed in male rats exposed orally or by inhalation to most LBPNs, were considered species- and exs-specific. These effects were determined to be due to a mechanism of action not relevant to humans -specifically, the interaction between hydrocarbon metabolites and alpha-2-microglobulin, an enzyme not produced in substantial amounts in female rats, mice and other species, including humans. The resulting nephrotoxicity and subsequent carcinogenesis in male rats were therefore not considered in deriving LOAEC/LOAEL values. Only a limited number of studies of short-term and subchronic duration were identified for site-restricted LBPNs. Animal studies indicate than normal, branched and cyclic parafilms are absorbed from the gastrointestinal tract and that the absorption of n-paraffilms is inversely proportion to the carbon chain length, with
NONYLPHENOL ETHOXYLATES	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. 551nonphens

	Polyethers (such as ethoxylated surfactants and polyethyle oxidation products. Animal testing reveals that whole the pure, non-oxidised si products also cause irritation. Humans have regular contact with alcohol ethoxylates through relatively high volumes would have to occur to produce any Studies show that alcohol ethoxylates have low toxicity through relatively high volumes would have to occur to produce gastro Animal studies show these chemicals may produce gastro riritation occurred when undiluted alcohol ethyoxylates were Both laboratory and animal testing has shown that there is adverse reproductive or developmental effects were observ Tri-ethylene glycol ethers undergo enzymatic oxidation to te depressed reflexes, flaccid muscle tone, breathing difficulty dose dependent damage to the kidneys as well as reproduce For nonylphenol: Animal testing suggests that repeated exposure to nonylph mutations or chromosomal aberrations. Oral (rat) TDLo: 150 mg/kg/3D-I Skin (rabbit): 500 mg mil	ene glycols) are highly susceptible to beil urfactant is non-sensitizing, many of the bugh a variety of industrial and consume swallowing, inhalation, or contact with th r toxic response. No death due to poison bugh swallowing and skin contact. Dintestinal irritation, stomach ulcers, hai e applied to the skin and eyes of animals no evidence for alcohol ethoxylates (AE red. Dxic alkoxy acids. They may irritate the s r and coma. Death may result in experim tive and developmental defects. enol may cause liver changes and kidne Id	ng oxidized in the air. They then form complex mixtures of oxidation products are sensitisers. The oxidization r products such as soaps, detergents and other cleaning e skin or eyes. Studies of acute toxicity show that ing with alcohol ethoxylates has ever been reported. standing up, diarrhea and lethargy. Slight to severe s. is) causing genetic damage, mutations or cancer. No kin and the eyes. At high oral doses, they may cause ental animal. However, repeated exposure may cause y dysfunction. Nonylphenol was not found to cause	
D-LIMONENE	Oral (rat) TDLo: 150 mg/kg/3D-I Skin (rabbit): 500 mg mild 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 unicaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T) imphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g., contact unicaria, involve antibody-mediated 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 storager sensitising potential with which lew individuals come into contact. From a clinical point of view, substances and the opportunities for contact with it are equally important. A weakly sensitising substance which is videly distributed can be a more important allergen than one with storager readim metabolicat and eliminate, primary threauting the usin. d-Limonene is readity absorbed by inhalation and swallowing. Absorption through the skin is reported to the lower than by inhalation. It is rapidly distributed to different tissues eve and ainvey iritration. Autoriad of manifestica contact cereations and pignenied contact dematitis. Jimone and connubial contact dematitis, irritant contact dematitis, is ensitivity to light, immediate contact reactions, and pignenied contact dematitis. Althore and connubial contact dematitis coccurs. Contact allergy is a lifelong condition, so symptoms may occur on e-exposed to perfure to care in exposed. If the perfure contaits a sensitizing component, intolerance to perfure by inhalation marker. Jimay distributed enter sensitive distribution of the substance and the respiratory diseases. Perfures can induce excess reactivity of the intravy without producin			
WATER	No significant acute toxicological data identified in literatu	ire search.		
Acute Toxicity	✓	Carcinogenicity	×	
Skin Irritation/Corrosion	×	Reproductivity	×	
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✓	
Respiratory or Skin		STOT Dependent Experience		
sensitisation	•	STOT - Repeated Exposure	×	

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Auto Klene Emulsa 70	ENDPOINT Not Available	TEST DURATION (HR) Not Available	SPECIES Not Available	VALUE Not Available	SOURCE Not Available
solvent naphtha petroleum,	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
light aliphatic	LC50	96	Fish	4.1mg/L	2

	EC50	48	Crustacea	4.5mg/L	2
	EC50	72	Algae or other aquatic plants	>1-mg/L	2
	NOEC	72	Algae or other aquatic plants	<0.1mg/L	1
	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	1.3mg/L	4
nonylphenol ethoxylates	EC50	48	Crustacea	12.2mg/L	4
	EC50	96	Algae or other aquatic plants	12.0mg/L	4
	NOEC	2400	Fish	0.035mg/L	4
d-limonene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.199mg/L	3
	EC50	48	Crustacea	0.307mg/L	2
	EC50	96	Algae or other aquatic plants	Algae or other aquatic plants 0.212mg/L	
	NOEC	504	Crustacea	0.05mg/L	2
	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
water	LC50	96	Fish	897.520mg/L	3
	EC50	96	Algae or other aquatic plants	8768.874mg/L	3
Lorondi	Extracted from 1	IIICLID Tovicity Data 2 Europe ECHA F	Registered Substances - Ecological Information -	Aquatic Toxicity 3 EPIW/I	V Suito V/3 15

(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

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
d-limonene	HIGH	HIGH
water	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
d-limonene	HIGH (LogKOW = 4.8275)
water	LOW (LogKOW = -1.38)

Mobility in soil

Ingredient	Mobility
d-limonene	LOW (KOC = 1324)
water	LOW (KOC = 14.3)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods	
Product / Packaging disposal	 Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible. Otherwise: If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. Where possible retain label warnings and SDS and observe all notices pertaining to the product. Recycle wherever possible. Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material). Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	
HAZCHEM	•3YE

Land transport (ADG)

UN number	1993		
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (contains solvent naphtha petroleum, light aliphatic)		
Transport hazard class(es)	Class 3 Subrisk Not Applicable		
Packing group	I		
Environmental hazard	Environmentally hazardous		
Special precautions for user	Special provisions 274 Limited quantity 1 L		

Air transport (ICAO-IATA / DGR)

UN number	1993			
UN proper shipping name	Flammable liquid, n.o.s. * (contains solvent naphtha petroleum, light aliphatic)			
Transport hazard class(es)	ICAO/IATA Class3ICAO / IATA SubriskNot ApplicableERG Code3H			
Packing group	Ш			
Environmental hazard	Environmentally hazardous			
Special precautions for user	Environmentality nazaroous Special provisions Cargo Only Packing Instructions Cargo Only Maximum Qty / Pack Passenger and Cargo Packing Instructions Passenger and Cargo Maximum Qty / Pack Passenger and Cargo Limited Quantity Packing Instructions Passenger and Cargo Limited Maximum Qty / Pack		A3 364 60 L 353 5 L Y341 1 L	

Sea transport (IMDG-Code / GGVSee)

UN number	1993		
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (contains solvent naphtha petroleum, light aliphatic)		
Transport hazard class(es)	IMDG Class 3 IMDG Subrisk Not Applicable		
Packing group	II		
Environmental hazard	Marine Pollutant		
Special precautions for user	EMS NumberF-E , S-ESpecial provisions274Limited Quantities1 L		

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

SOLVENT NAPHTHA PETROLEUM, LIGHT ALIPHATIC(64742-89-8.) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List	IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes	containing at least 99% by weight of components already assessed by IMO
Australia Exposure Standards	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	Monographs
Australia Inventory of Chemical Substances (AICS)	International Air Transport Association (IATA) Dangerous Goods Regulations
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)	International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule	International FOSFA List of Banned Immediate Previous Cargoes
5	International Maritime Dangerous Goods Requirements (IMDG Code)
	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations
NONYLPHENOL ETHOXYLATES(9016-45-9) IS FOUND ON THE FOLLOWING REGULATOR	RY LISTS
Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List	IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes	International Air Transport Association (IATA) Dangerous Goods Regulations
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	International Maritime Dangerous Goods Requirements (IMDG Code)
Australia Inventory of Chemical Substances (AICS)	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations
IMO IBC Code Chapter 17: Summary of minimum requirements	
D-LIMONENE(5989-27-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS	
Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List	IMO IBC Code Chapter 17: Summary of minimum requirements
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes	IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC
Australia Inventory of Chemical Substances (AICS)	Monographs
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix	International Air Transport Association (IATA) Dangerous Goods Regulations
B (Part 3)	International Maritime Dangerous Goods Requirements (IMDG Code)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Index	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Index GESAMP/EHS Composite List - GESAMP Hazard Profiles

WATER(7732-18-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

IMO IBC Code Chapter 18: List of products to which the Code does not apply

National Inventory Status

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (nonylphenol ethoxylates; water; d-limonene; solvent naphtha petroleum, light aliphatic)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (solvent naphtha petroleum, light aliphatic)
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
Thailand - TECI	No (nonylphenol ethoxylates; solvent naphtha petroleum, light aliphatic)
Legend:	Yes = All CAS declared ingredients are on the inventory No = 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

Revision Date	08/07/2019
Initial Date	06/01/2017

SDS Version Summary

Version	Issue Date	Sections Updated
3.1.1.1	10/01/2017	Acute Health (inhaled), Acute Health (skin), Acute Health (swallowed), Chronic Health, Classification, Environmental, First Aid (swallowed), Handling Procedure, Personal Protection (Respirator), Storage (storage requirement), Storage (suitable container)
7.1.1.1	08/07/2019	Classification, Ingredients, Name

Other information

Ingredients with multiple cas numbers

	-	
Name	С	CAS No

nonylphenol ethoxylates	9016-45-9, 102188-45-4, 103939-37-3, 105269-88-3, 106152-98-1, 107231-62-9, 11098-16-1, 11103-60-9, 11107-93-0, 111623-62-2, 37280-80-1, 37291-67-1, 37336-52-0, 376647-33-5, 39289-57-1, 39316-73-9, 39346-85-5, 39373-71-2, 39392-83-1, 39316-45-5, 56590-96-6, 39393-36-7, 39421-49-3, 39453-05-9, 39454-98-3, 39475-46-2, 42617-03-8, 441352-55-2, 441352-56-3, 441352-58-5, 57308-02-8, 441352-59-6, 50855-29-3, 509171-19-1, 50934-84-4, 51059-97-3, 51609-19-9, 51668-51-0, 51938-69-4, 52012-43-8, 57571-69-4, 52038-46-7, 52051-49-7, 52434-07-8, 52440-03-6, 52440-78-5, 552440-97-5, 55263-149-5, 52683-07-5, 53125-17-0, 59330-69-7, 53529-49-0, 53663-55-1, 53763-35-2, 53763-36-3, 54174-36-6, 54985-54-5, 55126-80-2, 55838-69-2, 60098-67-1, 60476-27-9, 61614-07-1, 61840-55-9, 62169-44-2, 62229-21-4, 112509-36-1, 62229-24-7, 62229-29-2, 623588-93-2, 63440-03-9, 63798-88-9, 64296-14-6, 64940-97-2, 65035-40-7, 65035-41-8, 65777-14-2, 114101-89-2, 66525-84-6, 67053-58-1, 72847-44-0, 72847-45-1, 74434-41-6, 74656-63-6, 74749-71-6, 75882-09-6, 76829-05-5, 77271-60-4, 1163687-50-0, 80341-59-9, 80966-32-1, 81296-82-4, 83271-48-1, 874461-43-5, 9021-03-8, 90452-81-6, 9067-50-9, 93095-76-2, 933050-99-8, 116711-78-5, 94220-59-8, 3, 9828-59-4, 96231-61-7, 96957-64-1, 96958-28-0, 99402-83-2, 99531-82-5, 1202388-20-2, 1202388-20-8, 123019-34-1, 123068-21-3, 124057-60-9, 12767-68-9, 12789-12-7, 12790-67-9, 137263-06-0, 139281-67-7, 141490-14-4, 142985-89-5, 143929-07-1, 167140-06-9, 172521-16-3, 1809431-45-5, 1809431-82-0, 188612-23-9, 190856-87-2, 1943678-94-1, 20236-22-9, 205577-03-3, 2091900-73-9, 20095076-76-7, 226225-58-7, 226225-58-7, 226225-58-7, 226225-58-8, 25640-88-4, 27288-14-8, 28136-10-9, 286015-28-9, 2594-36-3, 330676-83-6, 32196-52-4, 37187-23-8, 37210-94-9, 37230-99-2
d-limonene	5989-27-5, 138-86-3

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chernwatch 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.

