SAFETY DATA SHEET

ZOFF UNIVERSAL ADHESIVE REMOVER

SDS No. 09 Rev 2
Date of Issue: 28 February 2022

SECTION 1 – IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product Identifier

Product Identity	Zoff Universal Adhesive Remover
Manufacturer's Product Code	36105120

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Identified Use	Adhesive remover. To clean all types of adhesive residue from the skin, including hydrocolloids, acrylics and rubber based adhesives.

1.3 Details of the Supplier of the Safety Data Sheet

Australia

Company Name	Smith & Nephew Pty Limited
Address	85 Waterloo Road, North Ryde, NSW 2113
Telephone (Australian Toll free)	13 13 60
Emergency (business hours)	(02) 9857 3999

New Zealand

Company Name	Smith & Nephew Ltd
Address	621 Rosebank Road, Avondale, Auckland 1026
Telephone No.	(0)9 820 2840

SECTION 2 – HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

Flammable Liquid Category 3
Carcinogenicity Category 2
Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation)
Specific target organ toxicity - single exposure Category 3 (narcotic effects)
Aspiration Hazard Category 1

2.2 Label Elements

Classified as a Schedule 5 Poison. Labelling for Workplace Hazardous Substance is not required when labelled and sold as a Scheduled Poison.

Pictogram:

Signal word: DANGER

Hazard Statement:
H226 Flammable liquid and vapor.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H304 May be fatal if swallowed and enters airways.

Precautionary Statement:
[General]:
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.

[Prevention]:
P201 Obtain special instructions before use.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P271 Use only outdoors or in a well-ventilated area.
P281 Use personal protective equipment as required.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

[Response]:
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.
P370+P378 In case of fire: Use alcohol resistant foam or normal protein foam for extinction.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

[Disposal]:
P501 Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Substance/ Mixture:
Mixture

Chemical Name/Chemical Designations	Weight %
dipropylene glycol monomethyl ether CAS Number: 34590-94-8	30-60
alkanes, C10-11-iso- CAS Number: 246538-75-0	30-60
Aloe Vera, extract CAS Number: 85507-69-3	<10
Benzyl Alcohol CAS Number: 100-51-6	< 1
Butylated hydroxyanisole CAS Number: 25013-16-5	0.1
Fragrance CAS Number not available	<0.1

SECTION 4 – FIRST AID MEASURES

4.1 Description of First Aid Measures

General	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
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.

Eyes

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

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.

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.
Avoid giving milk or oils.
Avoid giving alcohol.
.

4.2 Most Important Symptoms and Effects, both Acute and Delayed

Acute Effects

Inhalation: Inhalation may cause respiratory tract irritation.

Eye: May cause temporary eye irritation or conjunctivitis by direct liquid contact with the eye. The vapour level at room temperature will not be sufficient cause any health problems.

Skin: Prolonged skin contact or repeated exposure is not likely to cause significant skin irritation unless there was a pre-existing skin disorder. Symptoms may include redness, dryness and skin cracking.

Ingestion: Harmful. May cause gastrointestinal irritation.

4.3 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 – FIRE FIGHTING MEASURES

5.1 Extinguishing Media

Water spray or fog.
Alcohol stable foam.
Dry chemical powder.
Carbon dioxide.
Do not use a water jet to fight fire.

5.2 Special Hazards Arising from the Substance or Mixture

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

5.3 Advice for Fire-Fighters

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.
- Prevent, by any means available, spillage from entering drains or water course.
- If safe, switch off electrical equipment until vapour fire hazard removed.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- Avoid spraying water onto liquid pools.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.

Fire/Explosion Hazard

- Liquid and vapour are flammable.
- Moderate fire hazard when exposed to heat or flame.
- Vapour forms an explosive mixture with air.
- Moderate explosion hazard when exposed to heat or flame.
- 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.

HAZCHEM

3Y

SECTION 6 – ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

See section 8

6.2 Environmental Precautions

See section 12

6.3 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.
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Stop leak if safe to do so.
- Water spray or fog may be used to disperse / absorb vapour.
- Contain spill with sand, earth or vermiculite.
- Use only spark-free shovels and explosion proof equipment.
- Collect recoverable product into labelled containers for recycling.
- Absorb remaining product with sand, earth or vermiculite.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- If contamination of drains or waterways occurs, advise emergency services.

6.4 Reference to other sections

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

SECTION 7 – HANDLING AND STORAGE

7.1 Precautions for Safe Handling

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.
- **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 generation of electrostatic discharge (<=1 m/sec until fill pipe submerged to twice its
- diameter, then <= 7 m/sec).
- Avoid splash filling.
- Do NOT use compressed air for filling discharging or handling operations.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of overexposure occurs.

- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- **DO NOT** enter confined spaces until atmosphere has been checked.
- Avoid smoking, naked lights or ignition sources.
- Avoid generation of static electricity.
- **DO NOT** use plastic buckets.
- Earth all lines and equipment.
- Use spark-free tools when handling.
- Avoid contact with incompatible materials.
- When handling, **DO NOT** eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately.
- Use good occupational work practice.
- Observe manufacturer's storage and handling recommendations contained within this SDS.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.

Other information:

- Store in original containers in approved flammable liquid storage area.
- Store away from incompatible materials in a cool, dry, well-ventilated area.
- **DO NOT** store in pits, depressions, basements or areas where vapours may be trapped.
- No smoking, naked lights, heat or ignition sources.
- Storage areas should be clearly identified, well illuminated, clear of obstruction and accessible only to trained and authorised personnel -
- adequate security must be provided so that unauthorised personnel do not have access.
- Store according to applicable regulations for flammable materials for storage tanks, containers, piping, buildings, rooms, cabinets, allowable
- quantities and minimum storage distances.
- Use non-sparking ventilation systems, approved explosion proof equipment and intrinsically safe electrical systems.
- Have appropriate extinguishing capability in storage area (e.g. portable fire extinguishers - dry chemical, foam or carbon dioxide) and
- flammable gas detectors.
- Keep adsorbents for leaks and spills readily available.
- Protect containers against physical damage and check regularly for leaks.

Observe manufacturer's storage and handling recommendations contained within this SDS.
In addition, for tank storages (where appropriate):

- Store in grounded, properly designed and approved vessels and away from incompatible materials.
- For bulk storages, consider use of floating roof or nitrogen blanketed vessels; where venting to atmosphere is possible, equip storage tank
- vents with flame arrestors; inspect tank vents during winter conditions for vapour/ ice build-up.
- Storage tanks should be above ground and diked to hold entire contents.

- Keep cool. Store below 25 deg.C

7.2 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
- Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.

7.3 Specific End Use(s)

No data available

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	dipropylene glycol monomethyl ether	(2-Methoxymethylethoxy) propanol	50 ppm / 308 mg/m3	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
dipropylene glycol monomethyl ether	(2-Methoxymethylethoxy) propanol	150 ppm	1700* ppm	9900** ppm
benzyl alcohol	benzyl alcohol	30 ppm	52 ppm	740 ppm

Ingredient	Original IDLH	Revised IDLH
dipropylene glycol monomethyl ether	600 ppm	Not Available
alkanes, C10-11-iso-	Not Available	Not Available
Aloes, extract	Not Available	Not Available
benzyl alcohol	Not Available	Not Available
butylated hydroxyanisole	Not Available	Not Available

OCCUPATIONAL EXPOSURE BANDING

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
Aloes, extract	C	> 0.1 to ≤ milligrams per cubic meter of air (mg/m³)
benzyl alcohol	E	≤ 0.1 ppm
butylated hydroxyanisole	E	≤ 0.01 mg/m³

Notes: 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.

8.2 Exposure Controls

Appropriate engineering 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:
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.

For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion-resistant.

Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

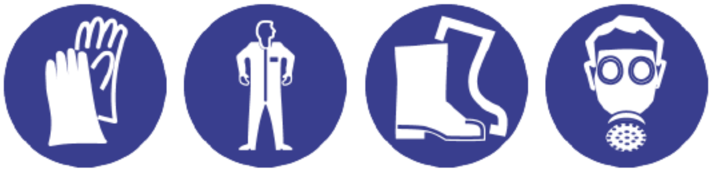
Type of Contaminant	Air Speed
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min.)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Personal protection



Eye and face protection

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for

each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

Skin protection
See Hand protection below

Hands/feet protection

- Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.
Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:
· frequency and duration of contact,
· chemical resistance of glove material,
· glove thickness and
· dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).
· When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
· When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
· Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.
· Contaminated gloves should be replaced.

As defined in ASTM F-739-96 in any application, gloves are rated as:
· Excellent when breakthrough time > 480 min
· Good when breakthrough time > 20 min
· Fair when breakthrough time < 20 min

· Poor when glove material degrades

For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.
It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.

Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.
Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:
· Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.
· Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Body protection
See Other protection below

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 of work to their homes and return.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

Appearance	Colourless flammable liquid with a slight paraffinic and perfume odour; miscible with water.
Physical state	Liquid
Odour	Not Available
Odour threshold	Not Available
pH	Not Available
Melting point / freezing point (°C)	Not Available
Initial boiling point and boiling range (°C)	>177
Flash point (°C)	46 (CC)
Evaporation rate	Not Available
Flammability	Flammable
Upper Explosive Limit (%)	6.5
Lower Explosive Limit (%)	0.6
Vapour pressure (kPa)	<1 @ 20 deg C (aromatic hydrocarbon)
Solubility in water	Miscible
Vapour density (Air = 1)	>1
Relative density (Water = 1)	0.83
Partition coefficient n-octanol / water	Not Available
Auto-ignition temperature (°C)	Not Available
Decomposition temperature	Not Available
Viscosity (cSt)	Not Available
Molecular weight (g/mol)	Not Available
Taste	Not Available
Explosive properties	Not Available
Oxidising properties	Not Available
Surface Tension (dyn/cm or mN/m)	Not Available
Volatile Component (%vol)	>98
Gas group	Not Available
pH as a solution (1%)	Not Available
VOC g/L	Not Available

SECTION 10 – STABILITY AND REACTIVITY

10.1 Reactivity

See section 7

10.2 Chemical Stability

Unstable in the presence of incompatible materials.
Product is considered stable.
Hazardous polymerisation will not occur.

10.3 Possibility of Hazardous Reactions

See section 7

10.4 Conditions to Avoid

See section 7

10.5 Incompatible Materials

See section 7

10.6 Hazardous Decomposition Products

See section 5

SECTION 11 - TOXICOLOGICAL INFORMATION

11.1 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 of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo. Inhalation hazard is increased at higher temperatures. 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 aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.

Ingestion

Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733) Accidental ingestion of the material may be damaging to the health of the individual.

Skin Contact

Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. There is some evidence to suggest that 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. Open cuts, abraded or irritated skin should not be exposed to this material Limited evidence suggests that repeated exposure may cause skin cracking, flaking or drying following normal handling and use.

Eye

Limited evidence or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals. Prolonged eye contact may cause inflammation characterised by a temporary redness of the conjunctiva (similar to windburn).

Chronic

Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Chronic solvent inhalation exposures may result in nervous system impairment and liver and blood changes.

	Toxicity	Irritation
dipropylene glycol monomethyl ether	Dermal (rabbit) LD50: 9500 mg/kg Oral (rat) LD50: 5130 mg/kg	Eye (human): 8 mg - mild Eye (rabbit): 500 mg/24hr - mild Skin (rabbit): 238 mg - mild Skin (rabbit): 500 mg (open)-mild
alkanes, C10-11-iso-	Dermal (rabbit) LD50: >3200 mg/kg Inhalation (rat) LC50: >12.2 mg/l/4h Oral (rat) LD50: >10000 mg/kg	Not Available
Aloes, extract	Not Available	Not Available
benzyl alcohol	Dermal (rabbit) LD50: 2000 mg/kg Inhalation (rat) LC50: >4.178 mg/l/4h Oral (rat) LD50: 1230 mg/kg	Eye (rabbit): 0.75 mg open SEVERE Eye: adverse effect observed (irritating) Skin (man): 16 mg/48h-mild Skin (rabbit):10 mg/24h open-mild Skin: no adverse effect observed (not irritating)
butylated hydroxyanisole	dermal (rat) LD50: >2000 mg/kg Oral (rat) LD50: >2000 mg/kg	Eye: adverse effect observed (irritating) Eye: no adverse effect observed (not irritating) Skin: adverse effect observed (irritating) Skin: no adverse effect observed (not irritating)

DIPROPYLENE GLYCOL MONOMETHYL ETHER

For propylene glycol ethers (PGEs):

Typical propylene glycol ethers include propylene glycol n-butyl ether (PnB); dipropylene glycol n-butyl ether (DPnB); dipropylene glycol methyl ether acetate (DPMA) and tripropylene glycol methyl ether (TPM). Testing of a wide variety of propylene glycol ethers has shown that propylene glycol-based ethers are less toxic than some ethers of the ethylene series. The common toxicities associated with the lower molecular weight homologues of the ethylene series, such as adverse effects on the reproductive organs, the developing embryo and foetus, blood or thymus gland, are not seen with the commercial-grade propylene glycol ethers.

In the ethylene series, metabolism of the terminal hydroxyl group produces and alkoxyacetic acid. The reproductive and developmental toxicities of the lower molecular weight homologues in the ethylene series are due specifically to the formation of methoxyacetic and ethoxyacetic acids. Longer chain homologues in the ethylene series are not associated with reproductive toxicity, but can cause haemolysis in sensitive species, also through formation of an alkoxyacetic acid. The predominant alpha isomer of all the PGEs (which is thermodynamically favoured during manufacture of PGEs) is a secondary alcohol incapable of forming an alkoxypropionic acid. In contrast, beta-isomers are able to form the alkoxypropionic acids and these are linked to birth defects (and possibly, haemolytic effects). The alpha isomer comprises more than 95% of the isomeric mixture in the commercial product, and therefore PGEs show relatively little toxicity. One of the main metabolites of the propylene glycol ethers is propylene glycol, which is of low toxicity and completely metabolized in the body.

As a class, PGEs have low acute toxicity via swallowing, skin exposure and inhalation. PnB and TPM are moderately irritating to the eyes, in animal testing, while the remaining members of this category caused little or no eye irritation. None caused skin sensitization. Animal testing showed that repeat dosing caused few adverse effects. Animal testing also shows that PGEs do not cause skin effects or reproductive toxicity. Commercially available PGEs have not been shown to cause birth defects. Available instance indicates that propylene glycol ethers are unlikely to possess genetic toxicity. The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

ALKANES, C10-11-ISO

The safety of isoparaffins as used in cosmetic products was reviewed by the Cosmetic Ingredient Review (CIR) Expert Panel. These ingredients function mostly as solvents and also function as emollients in the 0001% to 90% concentration range. The CIR Expert Panel has reviewed relevant animal and clinical data and concluded that these ingredients are safe in the present practices of use and concentration The CIR Expert Panel noted that most of the available data related to oral or inhalation exposure to isoparaffins, but the dermal and ocular exposure data that were available, suggested mild ocular irritation, mild-to-severe irritation, no sensitization or photosensitization, and no phototoxicity. No significant toxicity was identified in oral or inhalation exposure studies of the following end points: genotoxicity, reproductive and developmental toxicity, or carcinogenicity.Nephrotoxicity, however, was a concern. The Expert Panel noted the involvement of a2u-globulin in the mechanism for isoparaffin-induced nephrotoxicity/renal tubule cell proliferation in male rats of various strains in oral and inhalation exposure studies. Humans lack this protein and, thus, the Panel agreed that findings associated with the a2u-globulin protein in male rats were not relevant to humans.This view was consistent with the US EPA position that it was not possible for the agency to derive an oral RfD for chronic oral exposure or a reference concentration for chronic inhalation exposure to isooctane because the available studies were limited, in that they were designed to only investigate the endpoints specific to a2u-globulin-associated nephropathy. The EPA also concluded that there was inadequate
evidence to assess the carcinogenic potential of isooctane, based on the absence of human epidemiological studies and chronic bioassays on this compound. However, the CIR Expert Panel noted that no significant tumor incidence

was found following life-time dermal application of petrolatum (15% in isooctane) to mice and also found no evidence of any concern regarding carcinogenic potential from exposure to isoparaffins as used in cosmetics.

The potential adverse effects of inhaled aerosols depend on the specific chemical species, the concentration and the duration of the exposure and their site of deposition within the respiratory system. In practice, aerosols should have at least 99% of their particle diameters in the 10 to 110 mm range and the mean particle diameter in a typical aerosol spray has been reported as ~38 mm. Particles with an aerodynamic diameter of <10 mm are respirable. After reviewing the positive acute and subchronic inhalation toxicity data the Expert Panel determined that isoparaffins can be used safely in hair sprays, because the product particle size is not respirable.
International Journal of Toxicology 31 (Supplement 3) 269S-295S 2012 Animal studies indicate that normal, branched and cyclic paraffins are absorbed from the gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length, with little absorption above C30. With respect to the carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent than iso- or cyclo-paraffins.
The major classes of hydrocarbons are well absorbed into the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with fats in the diet. Some hydrocarbons may appear unchanged as in the lipoprotein particles in the gut lymph, but most hydrocarbons partly separate from fats and undergo metabolism in the gut cell. The gut cell may play a major role in determining the proportion of hydrocarbon that becomes available to be deposited unchanged in peripheral tissues such as in the body fat stores or the liver.

For petroleum: This product contains benzene, which can cause acute myeloid leukaemia, and n-hexane, which can be metabolized to compounds which are toxic to the nervous system. This product contains toluene, and animal studies suggest high concentrations of toluene lead to hearing loss. This product contains ethyl benzene and naphthalene, from which animal testing shows evidence of tumour formation.

Cancer-causing potential: Animal testing shows inhaling petroleum causes tumours of the liver and kidney; these are however not considered to be relevant in humans.

Mutation-causing potential: Most studies involving gasoline have returned negative results regarding the potential to cause mutations, including all recent studies in living human subjects (such as in petrol service station attendants).
Reproductive toxicity: Animal studies show that high concentrations of toluene (>0.1%) can cause developmental effects such as lower birth weight and developmental toxicity to the nervous system of the foetus. Other studies show no adverse effects on the foetus.

Human effects: Prolonged or repeated contact may cause defatting of the skin which can lead to skin inflammation and may make the skin more susceptible to irritation and penetration by other materials. Animal testing shows that exposure to gasoline over a lifetime can cause kidney cancer, but the relevance in humans is questionable.

ALOES, EXTRACT

Whole leaf extract of Aloe vera was tested for carcinogenicity after oral administration in one 2-year study in mice, and one 2-year study in rats. In male and female rats, drinking-water containing whole leaf extract of Aloe vera caused significantly increased incidences of adenoma of the large intestine (colon and caecum) and carcinoma of the large intestine (colon and caecum), tumours rarely developed spontaneously in rats. In the 2-year study in mice, there was no significantly increased incidence of any type of tumours in males or females given drinking-water
containing whole leaf extract of Aloe vera. In a study of photo-co-carcinogenesis with simulated sunlight, four articles were studied by skin application in hairless mice: three test articles containing Aloe vera that included gel, whole leaf extract, and decolourised whole leaf extract; and an aloe-emodin preparation. Almost all mice exposed to simulated sunlight developed skin neoplasms. No increase in the incidence of skin neoplasms was observed in the groups receiving any of the four test articles applied as a cream followed by simulated sunlight when compared
with the group receiving control cream followed by simulated sunlight. There was a significant enhancing effect of Aloe vera gel cream or aloe-emodin cream on the photocarcinogenic activity of simulated sunlight in female mice based on an increase in the multiplicity of squamous cell papilloma, carcinoma or carcinoma in situ (combined). There was a significant enhancing effect of the whole leaf extract cream or decolourized whole leaf extract cream on the photocarcinogenic activity of simulated sunlight in both male and female mice, based on an increase in the multiplicity of squamous cell papilloma, carcinoma or carcinoma in situ (combined).

Mechanistic and other relevant data
The C-glycosides aloin A and aloin B, which are components of Aloe vera latex, are converted to aloe-emodin-9-anthrone by bacteria present in the gastrointestinal tract of rats and humans. Aloe-emodin-9-anthrone undergoes sequential oxidation to aloe-emodin and rhein. Preparations of Aloe vera, acemannan, and aloin A, do not display genotoxic activity in assays for mutagenesis in bacteria and/or other assays for genotoxicity.
In contrast, aloe-emodin has genotoxic activity. These data suggest that the neoplastic response observed with Aloe vera is a consequence of the conversion of the anthrone C-glycosides to aloe-emodin, which by itself or in combination with other components of Aloe vera is responsible for the adenomas and carcinomas in the large intestine of rats.

BENZYL ALCOHOL
Unlike benzylic alcohols, the beta-hydroxyl group of the members of benzyl alkyl alcohols contributes to break down reactions but do not undergo phase II metabolic activation. Though structurally similar to cancer causing ethyl benzene, phenethyl alcohol is only of negligible concern due to limited similarity in their pattern of activity.

For benzoates:
Benzyl alcohol, benzoic acid and its sodium and potassium salt have a common metabolic and excretion pathway. All but benzyl alcohol are considered to be unharmful and of low acute toxicity. They may cause slight irritation by oral, dermal or inhalation exposure except sodium benzoate which doesn't irritate the skin. Studies showed increased mortality, reduced weight gain, liver and kidney effects at higher doses, also, lesions of the brains, thymus and skeletal muscles may occur with benzyl alcohol. However, they do not cause cancer, genetic or reproductive
toxicity. Developmental toxicity may occur but only at maternal toxic level. Adverse reactions to fragrances in perfumes and fragranced cosmetic products include allergic contact dermatitis, irritant contact dermatitis,

sensitivity to light, immediate contact reactions, and pigmented contact dermatitis. Airborne and connubial contact dermatitis occurs. Contact allergy is a lifelong condition, so symptoms may occur on re-exposure. Allergic contact dermatitis can be severe and widespread, with significant impairment of quality of life and potential consequences for fitness for work.

If the perfume contains a sensitizing component, intolerance to perfumes by inhalation may occur. Symptoms may include general unwellness, coughing, phlegm, wheezing, chest tightness, headache, shortness of breath with exertion, acute respiratory illness, hayfever, asthma and other respiratory diseases. Perfumes can induce excess reactivity of the airway without producing allergy or airway obstruction. Breathing through a carbon filter mask had no protective effect. Occupational asthma caused by perfume substances, such as isoamyl acetate, limonene, cinnamaldehyde and benzaldehyde, tend to give persistent symptoms, even though the exposure is below occupational exposure limits. Prevention of contact sensitization to fragrances is an important objective of public health risk management.

Hands: Contact sensitization may be the primary cause of hand eczema or a complication of irritant or atopic hand eczema. However hand eczema is a disease involving many factors, and the clinical significance of fragrance contact allergy in severe, chronic hand eczema may not be clear.
Underarm: Skin inflammation of the armpits may be caused by perfume in deodorants and, if the reaction is severe, it may spread down the arms and to other areas of the body. In individuals who consulted a skin specialist, a history of such first-time symptoms was significantly related to the later diagnosis of perfume allergy.

Face: An important manifestation of fragrance allergy from the use of cosmetic products is eczema of the face. In men, after-shave products can cause eczema around the beard area and the adjacent part of the neck. Men using wet shaving as opposed to dry have been shown to have an increased risk of allergic to fragrances.
Irritant reactions: Some individual fragrance ingredients, such as citral, are known to be irritant. Fragrances may cause a dose-related contact urticaria (hives) which is not allergic; cinnamal, cinnamic alcohol and Myroxylon pereirae are known to cause hives, but others, including menthol, vanillin and benzaldehyde have also been reported.

Pigmentary anomalies: Type IV allergy is responsible for “pigmented cosmetic dermatitis”, referring to increased pigmentation on the face and neck. Testing showed a number of fragrance ingredients were associated, including jasmine absolute, ylang-ylang oil, cananga oil, benzyl salicylate, hydroxycitronellal, sandalwood oil, geraniol and geranium oil.

Light reactions: Musk ambrette produced a number of allergic reactions mediated by light and was later banned from use in Europe. Furocoumarins (psoralens) in some plant-derived fragrances have caused phototoxic reactions, with redness. There are now limits for the amount of furocoumarins in fragrances. Phototoxic reactions still occur, but are rare.

General/respiratory: Fragrances are volatile, and therefore, in addition to skin exposure, a perfume also exposes the eyes and the nose / airway. It is estimated that 2-4% of the adult population is affected by respiratory or eye symptoms by such an exposure. It is known that exposure to fragrances may exacerbate pre-existing asthma. Asthma-like symptoms can be provoked by sensory mechanisms. A significant association was found between respiratory complaints related to fragrances and contact allergy to fragrance ingredients and hand eczema.

Fragrance allergens act as haptens, low molecular weight chemicals that cause an immune response only when attached to a carrier protein. However, not all sensitizing fragrance chemicals are directly reactive, but require previous activation. A prehapten is a chemical that itself causes little or no sensitization, but is transformed into a hapten in the skin (bioactivation), usually via enzyme catalysis. It is not always possible to know whether a particular allergen that is not directly reactive acts as a prehapten or a prohapten , or both.

Prohaptens: Compounds that are bioactivated in the skin and thereby form haptens are referred to prohaptens. The possibility of a prohapten being activated cannot be avoided by outside measures. Activation processes increase the risk for cross-reactivity between fragrance substances. Various enzymes play roles in both activating and deactivating prohaptens. Skin-sensitizing prohaptens can be recognized and grouped into chemical classes based on knowledge of xenobiotic bioactivation reactions, clinical observations and/or studies of sensitization.

QSAR prediction: Prediction of sensitization activity of these substances is complex, especially for those substances that can act both as preand prohaptens. This is a member or analogue of a group of benzyl derivatives generally regarded as safe (GRAS), based partly on their self-limiting properties as flavouring substances in food. In humans and other animals, they are rapidly absorbed, broken down and excreted, with a wide safety margin.
They also lack significant potential to cause genetic toxicity and mutations. The intake of benzyl derivatives as natural components of traditional foods is actually higher than the intake as intentionally added flavouring substances. The aryl alkyl alcohol (AAA) fragrance ingredients have diverse chemical structures, with similar metabolic and toxicity profiles. The AAA fragrances demonstrate low acute and subchronic toxicity by skin contact and swallowing. At concentrations likely to be encountered by consumers, AAA fragrance ingredients are non-irritating to the skin. The potential for eye irritation is minimal. With the exception of benzyl alcohol, phenethyl and 2-phenoxyethyl AAA alcohols, testing in humans indicate that AAA fragrance ingredients generally have no or low
sensitization potential. Available data indicate that the potential for photosensitization is low. Testing suggests that at current human exposure levels, this group of chemicals does not cause maternal or developmental toxicity. Animal testing shows no cancer-causing evidence, with little or no genetic toxicity. It has been concluded that these materials would not present a safety concern at current levels of use, as fragrance ingredients.

BUTYLATED HYDROXYANISOLE
Tenth Annual Report on Carcinogens: Substance anticipated to be Carcinogen [*National Toxicology Program: U.S. Dep. of Health & Human Services 2002*]
NOTE: Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA.
Altered sleep time, ataxia, respiratory stimulation, haemorrhage, liver changes, enzyme changes, changes in adrenal weight, changes in serum composition, changes in thyroid weight, changes in liver weight, changes in lung weight, haemolysis, weight loss or decreased weight gain, gastrointestinal changes, gastrointestinal tumours, kidney, ureter, bladder tumours, endocrine tumours, lung, thorax or respiratory tumours, effects on newborn recorded.

DIPROPYLENE GLYCOL MONOMETHYL ETHER & BUTYLATED HYDROXYANISOLE

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.

DIPROPYLENE GLYCOL MONOMETHYL ETHER & BENZYL ALCOHOL
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.

ALKANES, C10-11-ISO- & ALOES, EXTRACT & BUTYLATED HYDROXYANISOLE
No significant acute toxicological data identified in literature search.

ALOES, EXTRACT & BUTYLATED HYDROXYANISOLE
WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.

BENZYL ALCOHOL & BUTYLATED HYDROXYANISOLE
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.

SECTION 12 – ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Ingredient	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
dipropylene glycol	LC50	96	Fish	>1-930mg/L	Europe ECHA Registered
	EC50	48	Crustacea	1-930mg/L	

monomethyl ether	EC50	72	Algae or other aquatic plants	6-999mg/L	Substances - Ecotoxicological Information - Aquatic Toxicity
	NOEC	528	Crustacea	>=0.5mg/L	
alkanes, C10-11-iso-	Not Available	Not Available	Not Available	Not Available	Not Available
Aloes, extract	Not Available	Not Available	Not Available	Not Available	Not Available
benzyl alcohol	LC50	96	Fish	10mg/L	*Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity*
	EC50	48	Crustacea	230mg/L	
	EC50	96	Algae or other aquatic plants	76.828mg/L	
	NOEC	336	Fish	5.1mg/L	
butylated hydroxyanisole	LC50	96	Fish	1.56mg/L	*Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity*
	EC50	48	Crustacea	2.3mg/L	
	EC50	72	Algae or other aquatic plants	1.9mg/L	
	NOEC	72	Algae or other aquatic plants	0.25mg/L	

12.2 Persistence and Degradability

Ingredient	**Persistence: Water/Soil**	**Persistence: Air**
dipropylene glycol monomethyl ether	HIGH	HIGH
benzyl alcohol	LOW	LOW
butylated hydroxyanisole	HIGH	HIGH

12.3 Bioaccumulative Potential

Ingredient	**Bioaccumulation**
dipropylene glycol monomethyl ether	LOW (BCF = 100)
benzyl alcohol	LOW (LogKOW = 1.1)
butylated hydroxyanisole	LOW (BCF = 21)

12.4 Mobility in Soil

Ingredient	**Mobility**

dipropylene glycol monomethyl ether	LOW (KOC = 10)
benzyl alcohol	LOW (KOC = 15.66)
butylated hydroxyanisole	LOW (KOC = 1390)

12.5 Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

SECTION 13 – DISPOSAL CONSIDERATIONS

Product / Packaging disposal

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:

- 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.

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

Classified as a Dangerous Good according to the Australian Code for Transport of Dangerous Goods by Road and Rail.

Land transport (ADG)

UN Number	UN1993
UN Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (contains alkanes, C10-11-iso-)
Transport Hazard Class	3
Packing Group	III
Environmental Hazard	Not Applicable
IMDG	Marine Pollutant: No
Special Precautions for User	Special provisions 223 274 Limited quantity 5 L
Hazchem Code	3[Y]

Air transport (ICAO-IATA / DGR)

UN Number	UN1993
UN Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (contains alkanes, C10-11-iso-)
Transport Hazard Class	ICAO/IATA Class 3 ICAO / IATA Subrisk Not Applicable ERG Code 3L
Packing Group	III
Environmental Hazard	Not Applicable
Special Precautions for User	Special provisions A3 Cargo Only Packing Instructions 366 Cargo Only Maximum Qty / Pack 220 L Passenger and Cargo Packing Instructions 355 Passenger and Cargo Maximum Qty / Pack 60 L Passenger and Cargo Limited Quantity Packing Instructions Y344 Passenger and Cargo Limited Maximum Qty / Pack 10 L

Sea transport (IMDG-Code / GGVSee)

UN Number	UN1993
UN Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (contains alkanes, C10-11-iso-)
Transport Hazard Class	IMDG Class 3 IMDG Subrisk Not Applicable
Packing Group	III
Environmental Hazard	Not Applicable
Special Precautions for User	EMS Number F-E , S-E

Special provisions 223 274 955
Limited Quantities 5 L

SECTION 15 – REGULATORY INFORMATION

Poison Schedule	Classified as a Schedule 5 Poison in accordance with Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP). Signal word CAUTION.

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

DIPROPYLENE GLYCOL MONOMETHYL ETHER IS FOUND ON THE FOLLOWING REGULATORY LISTS
Australia Inventory of Chemical Substances (AICS)

ALKANES, C10-11-ISO- IS FOUND ON THE FOLLOWING REGULATORY LISTS
Australia Inventory of Chemical Substances (AICS)

ALOES, EXTRACT IS FOUND ON THE FOLLOWING REGULATORY LISTS
Australia Inventory of Chemical Substances (AICS)
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 2B : Possibly carcinogenic to humans

BENZYL ALCOHOL IS FOUND ON THE FOLLOWING REGULATORY LISTS
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Inventory of Chemical Substances (AICS)

BUTYLATED HYDROXYANISOLE IS FOUND ON THE FOLLOWING REGULATORY LISTS
Australia Inventory of Chemical Substances (AICS)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2
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 2B : Possibly carcinogenic to humans

National Inventory Status

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes

Canada - NDSL	No (dipropylene glycol monomethyl ether; Aloes, extract; benzyl alcohol; butylated hydroxyanisole)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (alkanes, C10-11-iso-)
Japan - ENCS	No (alkanes, C10-11-iso-; Aloes, extract)
Korea - KECI	No (alkanes, C10-11-iso-; Aloes, extract)
New Zealand - NZIoC	No (alkanes, C10-11-iso-)
Philippines - PICCS	No (alkanes, C10-11-iso-)
USA - TSCA	No (Aloes, extract)
Taiwan - TCSI	Yes
Mexico - INSQ	No (alkanes, C10-11-iso-)
Vietnam - NCI	No (alkanes, C10-11-iso-)
Russia - ARIPS	No (alkanes, C10-11-iso-; Aloes, extract)

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

The information and recommendations contained herein are based upon data believed to be correct and in accordance with the requirements of the Work Health and Safety Regulations. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. This information is provided specifically in order to assist users of the product to make their assessment of health risks. Provision of this information does not preclude users from seeking advice from other sources. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

Definitions and abbreviations

PC – TWA: Permissible Concentration-Time Weighted Average
PC – STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit。
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value

LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

REVISION HISTORY

Revision Number	Description of Change	Effective Date
0	New Issue in GHS format	20-Dec-2016
1	Updates to Section 2.2 to align with product labels and inclusion of New Zealand supplier contact details to section 1.3.	16-Feb-2017
2	Section 1 New Zealand sponsor address updated. Sections 2-16 updated.	28-Feb-2022