

## Solvent B1

### Nowchem

Version No: 1.3  
Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 3

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L.GHS.AUS.EN

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

### Product Identifier

<b>Product name</b>	Solvent B1
<b>Synonyms</b>	Not Available
<b>Proper shipping name</b>	HYDROCARBONS, LIQUID, N.O.S.
<b>Other means of identification</b>	Not Available

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

<b>Relevant identified uses</b>	Ideal for automotive parts and brake systems, can be used as Brake Cleaner.
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### Details of the supplier of the safety data sheet

<b>Registered company name</b>	Nowchem
<b>Address</b>	112A Albatross Road NSW Australia
<b>Telephone</b>	(02) 4421 4099
<b>Fax</b>	(02) 4421 4932
<b>Website</b>	www.nowchem.com.au
<b>Email</b>	sales@nowchem.com.au

### Emergency telephone number

<b>Association / Organisation</b>	Nowchem
<b>Emergency telephone numbers</b>	(02) 4421 4099
<b>Other emergency telephone numbers</b>	0413 809 255

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

<b>Poisons Schedule</b>	Not Applicable
<b>Classification</b> <sup>[1]</sup>	Skin Corrosion/Irritation Category 2, Aspiration Hazard Category 1, Specific target organ toxicity - single exposure Category 3(narcotic effects), Flammable Liquid Category 2
<b>Legend:</b>	1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

### Label elements

## Solvent B1

GHS label elements	
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SIGNAL WORD	<b>DANGER</b>
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## Hazard statement(s)

H315	Causes skin irritation.
H304	May be fatal if swallowed and enters airways.
H336	May cause drowsiness or dizziness.
H225	Highly flammable liquid and vapour.

## Precautionary statement(s) Prevention

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.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P271	Use only outdoors or in a well-ventilated area.
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.

## Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331	Do NOT induce vomiting.
P362	Take off contaminated clothing and wash before reuse.
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.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
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.
P332+P313	If skin irritation occurs: Get medical advice/attention.

## Precautionary statement(s) Storage

P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

## Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.
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## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

## Substances

See section below for composition of Mixtures

## Mixtures

CAS No	%[weight]	Name
142-82-5	60-70	<u>heptane</u>
110-82-7	20-30	<u>cyclohexane</u>
108-87-2	20-30	<u>methylcyclohexane</u>
110-54-3	<10	<u>n-hexane</u>
111-65-9	<10	<u>n-octane</u>
64742-49-0.	<10	<u>naphtha petroleum, light, hydrotreated</u>

## SECTION 4 FIRST AID MEASURES

## Solvent B1

## Description of first aid measures

<b>Eye Contact</b>	<p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none"> <li>▶ Wash out immediately with water.</li> <li>▶ If irritation continues, seek medical attention.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>▶ Other measures are usually unnecessary.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.</li> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> <li>▶ Avoid giving milk or oils.</li> <li>▶ Avoid giving alcohol.</li> </ul>

## Indication of any immediate medical attention and special treatment needed

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.

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 (pO<sub>2</sub> 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]

## SECTION 5 FIREFIGHTING MEASURES

## Extinguishing media

## Special hazards arising from the substrate or mixture

<b>Fire Incompatibility</b>	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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## Advice for firefighters

<b>Fire Fighting</b>	
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>▶ Liquid and vapour are highly flammable.</li> <li>▶ Severe fire hazard when exposed to heat, flame and/or oxidisers.</li> <li>▶ Vapour may travel a considerable distance to source of ignition.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ On combustion, may emit toxic fumes of carbon monoxide (CO).</li> </ul> <p>Combustion products include; carbon dioxide (CO<sub>2</sub>) other pyrolysis products typical of burning organic material May emit clouds of acid smoke  <b>WARNING:</b> Long standing in contact with air and light may result in the formation of potentially explosive peroxides.</p>
<b>HAZCHEM</b>	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

<b>Minor Spills</b>	<ul style="list-style-type: none"> <li>▶ Remove all ignition sources.</li> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Control personal contact with the substance, by using protective equipment.</li> <li>▶ Contain and absorb small quantities with vermiculite or other absorbent material.</li> <li>▶ Wipe up.</li> <li>▶ Collect residues in a flammable waste container.</li> </ul>														
<b>Major Spills</b>	<p>Chemical Class: aliphatic hydrocarbons  For release onto land: recommended sorbents listed in order of priority.</p> <table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 20%;">SORBENT</th> <th style="width: 10%;">RANK</th> <th style="width: 20%;">APPLICATION</th> <th style="width: 20%;">COLLECTION</th> <th style="width: 30%;">LIMITATIONS</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>					SORBENT	RANK	APPLICATION	COLLECTION	LIMITATIONS					
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## Solvent B1

TYPE				
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## LAND SPILL - SMALL

cross-linked polymer - particulate	1	shovel	shovel	R, W, SS
cross-linked polymer - pillow	1	throw	pitchfork	R, DGC, RT
wood fiber - pillow	2	throw	pitchfork	R, P, DGC, RT
treated wood fibre- pillow	2	throw	pitchfork	DGC, RT
sorbent clay - particulate	3	shovel	shovel	R, I, P
foamed glass - pillow	3	throw	pitchfork	R, P, DGC, RT

## LAND SPILL - MEDIUM

cross-linked polymer - particulate	1	blower	skid loader	R,W, SS
cross-linked polymer - pillow	2	throw	skid loader	R, DGC, RT
sorbent clay - particulate	3	blower	skid loader	R, I, P
polypropylene - particulate	3	blower	skid loader	W, SS, DGC
expanded mineral - particulate	4	blower	skid loader	R, I, W, P, DGC
polypropylene - mat	4	throw	skid loader	DGC, RT

## Legend

DGC: Not effective where ground cover is dense

R; Not reusable

I: Not incinerable

P: Effectiveness reduced when rainy

RT: Not effective where terrain is rugged

SS: Not for use within environmentally sensitive sites

W: Effectiveness reduced when windy

Reference: Sorbents for Liquid Hazardous Substance Cleanup and Control;

R.W Melvold et al: Pollution Technology Review No. 150: Noyes Data Corporation 1988

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

## SECTION 7 HANDLING AND STORAGE

## Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> <li>▶ Containers, even those that have been emptied, may contain explosive vapours.</li> <li>▶ Do NOT cut, drill, grind, weld or perform similar operations on or near containers.</li> <li>▶ Electrostatic discharge may be generated during pumping - this may result in fire.</li> <li>▶ Ensure electrical continuity by bonding and grounding (earthing) all equipment.</li> <li>▶ Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<math>\leq 1</math> m/sec until fill pipe submerged to twice its diameter, then <math>\leq 7</math> m/sec).</li> <li>▶ Avoid splash filling.</li> <li>▶ Do NOT use compressed air for filling discharging or handling operations.</li> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Prevent concentration in hollows and sumps.</li> <li>▶ <b>DO NOT enter confined spaces until atmosphere has been checked.</b></li> <li>▶ Avoid smoking, naked lights, heat or ignition sources.</li> <li>▶ When handling, <b>DO NOT eat, drink or smoke.</b></li> <li>▶ Vapour may ignite on pumping or pouring due to static electricity.</li> <li>▶ <b>DO NOT use plastic buckets.</b></li> <li>▶ Earth and secure metal containers when dispensing or pouring product.</li> <li>▶ Use spark-free tools when handling.</li> <li>▶ Avoid contact with incompatible materials.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ Avoid physical damage to containers.</li> <li>▶ Always wash hands with soap and water after handling.</li> <li>▶ Work clothes should be laundered separately.</li> <li>▶ Use good occupational work practice.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.</li> <li>▶ <b>DO NOT allow clothing wet with material to stay in contact with skin</b></li> </ul>
Other information	<ul style="list-style-type: none"> <li>▶ Store in original containers in approved flame-proof area.</li> <li>▶ No smoking, naked lights, heat or ignition sources.</li> <li>▶ <b>DO NOT store in pits, depressions, basements or areas where vapours may be trapped.</b></li> <li>▶ Keep containers securely sealed.</li> <li>▶ Store away from incompatible materials in a cool, dry well ventilated area.</li> <li>▶ Protect containers against physical damage and check regularly for leaks.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul>

## Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> <li>▶ Packing as supplied by manufacturer.</li> <li>▶ Plastic containers may only be used if approved for flammable liquid.</li> <li>▶ Check that containers are clearly labelled and free from leaks.</li> <li>▶ Drums and jerry cans must be of the non-removable head type.</li> </ul>
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## Solvent B1

	<ul style="list-style-type: none"> <li>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</li> <li>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.</li> </ul>
<b>Storage incompatibility</b>	<p>Cyclohexane</p> <ul style="list-style-type: none"> <li>reacts violently with strong oxidisers, nitrogen tetraoxide</li> <li>may generate electrostatic charges, due to low conductivity, following flow or agitation</li> <li>Avoid reaction with oxidising agents</li> </ul>

## 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	heptane	Heptane (n-Heptane)	1640 mg/m <sup>3</sup> / 400 ppm	2050 mg/m <sup>3</sup> / 500 ppm	Not Available	Not Available
Australia Exposure Standards	cyclohexane	Cyclohexane	350 mg/m <sup>3</sup> / 100 ppm	1050 mg/m <sup>3</sup> / 300 ppm	Not Available	Not Available
Australia Exposure Standards	methylcyclohexane	Methylcyclohexane	1610 mg/m <sup>3</sup> / 400 ppm	Not Available	Not Available	Not Available
Australia Exposure Standards	n-hexane	Hexane (n-Hexane)	72 mg/m <sup>3</sup> / 20 ppm	Not Available	Not Available	Not Available
Australia Exposure Standards	n-octane	Octane	1400 mg/m <sup>3</sup> / 300 ppm	1750 mg/m <sup>3</sup> / 375 ppm	Not Available	Not Available

## EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
heptane	Heptane	440 ppm	440 ppm	5000 ppm
cyclohexane	Cyclohexane	100 ppm	100 ppm	10000 ppm
methylcyclohexane	Methylcyclohexane	400 ppm	400 ppm	10000 ppm
n-hexane	Hexane	300 ppm	Not Available	Not Available
n-octane	Octane, n-	300 ppm	385 ppm	5000 ppm

Ingredient	Original IDLH	Revised IDLH
heptane	5,000 ppm	750 ppm
cyclohexane	10,000 ppm	1,300 [LEL] ppm
methylcyclohexane	10,000 ppm	1,200 [LEL] ppm
n-hexane	5,000 ppm	1,100 [LEL] ppm
n-octane	5,000 ppm	1,000 [LEL] ppm
naphtha petroleum, light, hydrotreated	Not Available	Not Available

## MATERIAL DATA

For methylcyclohexane:

High concentrations produce narcosis in animals. The TLV-TWA is based on analogy with heptane, a substance exhibiting similar toxicology, and is thought to be protective against irritation. Prolonged exposure by monkeys to 370 ppm failed to produce adverse health effects.

Odour Safety Factor (OSF)

OSF=0.63 (METHYLCYCLOHEXANE)

For cyclohexane:

Odour Threshold Value: 784 ppm (detection)

NOTE: Detector tubes for cyclohexane, measuring in excess of 100 ppm are commercially available.

The recommended TLV-TWA represents the borderline of irritation but takes into account the practical difficulties of achieving lower values in the workplace. Whether serious or long-lasting consequences result from exposure at 300 ppm or whether humans become narcosed or fatigued remains to be established. The present value is thought to be a satisfactory bench-mark until further studies are made.

Odour Safety Factor(OSF)

OSF=4 (CYCLOHEXANE)

for heptane (all isomers)

The TLV-TWA is protective against narcotic and irritant effects which are greater than those of pentane or n-hexane but less than those of octane. The TLV-TWA applies to all isomers.

Inhalation by humans of 1000 ppm for 6 minutes produced slight dizziness. Higher concentrations for shorter periods produce marked vertigo, incoordination and hilarity. Signs of central nervous system depression occur in the absence of mucous membrane irritation. Brief exposures to high levels (5000 ppm for 4 minutes) produce nausea, loss of appetite and a 'gasoline-like' taste in the mouth that persists for many hours after exposure ceases

For n-hexane:

Odour Threshold Value: 65 ppm

NOTE: Detector tubes for n-hexane, measuring in excess of 100 ppm, are available commercially.

Occupational polyneuropathy may result from exposures as low as 500 ppm (as hexane), whilst nearly continuous exposures of 250 ppm have caused neurotoxic effects in animals. Many literature reports have failed to distinguish hexane from n-hexane and on the assumption that the commercial hexane contains 30% n-hexane, a worst case recommendation for TLV is assumed to reduce the risk of peripheral neuropathies (due to the metabolites 2,5-heptanedione and 3,6-octanedione) and other adverse neuropathic effects.

Concurrent exposure to chemicals (including MEK) and drugs which induce hepatic liver oxidative metabolism can reduce the time for neuropathy to appear.

Odour Safety Factor(OSF)

OSF=0.15 (n-HEXANE)

For n-octane:

Odour Threshold Value: 152 ppm (detection), 235 ppm (recognition)

The TLV-TWA is thought to be protective against narcotic effects produced at higher concentrations.

Odour Safety Factor(OSF)

OSF=6.3 (n-OCTANE)

NOTE M: The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0.005% w/w benzo[a]pyrene (EINECS No 200-028-5). This note applies only to

## Solvent B1

certain complex oil-derived substances in Annex IV.

European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP) - up to the latest ATP

NOTE P: The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0.01% w/w benzene (EINECS No 200-753-7). Note E shall also apply when the substance is classified as a carcinogen. This note applies only to certain complex oil-derived substances in Annex VI.

European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP) - up to the latest ATP

## Exposure controls

Appropriate engineering controls	<p><b>CARE:</b> 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</p> <p>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.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>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.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> <p>For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion-resistant.</p>
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ Chemical goggles.</li> <li>▶ 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]</li> </ul>
Skin protection	See Hand protection below
Hands/feet protection	<ul style="list-style-type: none"> <li>▶ Wear chemical protective gloves, e.g. PVC.</li> <li>▶ Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul> <p>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.</p> <p>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.</p> <p>Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.</p> <p>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p> <ul style="list-style-type: none"> <li>• frequency and duration of contact,</li> <li>• chemical resistance of glove material,</li> <li>• glove thickness and</li> <li>• dexterity</li> </ul> <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.</li> <li>• Contaminated gloves should be replaced.</li> </ul> <p>For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.</p> <p>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.</p> <p>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.</p> <p>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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</li> </ul> <p>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.</p> <ul style="list-style-type: none"> <li>▶ Neoprene rubber gloves</li> </ul>
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> <li>▶ Eyewash unit.</li> <li>▶ Ensure there is ready access to a safety shower.</li> </ul> <p>Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.</p> <p>For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).</p> <p>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 and 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.</p>
Thermal hazards	Not Available

## Solvent B1

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

## Information on basic physical and chemical properties

<b>Appearance</b>	Clear Colourless Liquid		
<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	0.72
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not Available
<b>pH (as supplied)</b>	Not Available	<b>Decomposition temperature</b>	Not Available
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Available
<b>Initial boiling point and boiling range (°C)</b>	78 - 110	<b>Molecular weight (g/mol)</b>	Not Available
<b>Flash point (°C)</b>	-15	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	HIGHLY FLAMMABLE.	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Available	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	Not Available	<b>Volatile Component (%vol)</b>	Not Available
<b>Vapour pressure (kPa)</b>	Not Available	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Immiscible	<b>pH as a solution (1%)</b>	Not Available
<b>Vapour density (Air = 1)</b>	Not Available	<b>VOC g/L</b>	Not Available

## SECTION 10 STABILITY AND REACTIVITY

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	<ul style="list-style-type: none"> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul>
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

## SECTION 11 TOXICOLOGICAL INFORMATION

## Information on toxicological effects

<b>Inhaled</b>	<p>The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo.</p> <p>In rabbits lethal doses of methylcyclohexane, produced conjunctival congestion, dyspnea, rapid narcosis and convulsions preceding death. Histologic changes in animals exposed to methylcyclohexane resemble those induced by cyclohexane.</p> <p>Acute effects from inhalation of high concentrations of vapour are pulmonary irritation, including coughing, with nausea; central nervous system depression - characterised by headache and dizziness, increased reaction time, fatigue and loss of co-ordination</p> <p>Central nervous system (CNS) depression may include nonspecific 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. Rabbits survived 8 hour exposures to cyclohexane at 18500 ppm but 26600 ppm was lethal after 1 hour exposure. A concentration of 12600 ppm produced lethargy, narcosis, increased respiration rate and convulsions- 3330 ppm failed to elicit an effect. 300 ppm is reported to be irritating to human eyes and mucous membranes.</p>
<b>Ingestion</b>	<p>Swallowing of the liquid may cause aspiration of vomit into the lungs with the risk of haemorrhaging, pulmonary oedema, progressing to chemical pneumonitis; serious consequences may result.</p> <p>Signs and symptoms of chemical (aspiration) pneumonitis may include coughing, gasping, choking, burning of the mouth, difficult breathing, and bluish coloured skin (cyanosis).</p> <p>Ingestion of methylcyclohexane may be harmful. Death may occur as a result of central nervous system depression and possible circulatory collapse</p> <p>The material has <b>NOT</b> been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.</p> <p>Chronic inhalation or skin exposure to n-hexane may cause peripheral neuropathy, which is damage to nerve ends in extremities, e.g. fingers, with loss of sensation and characteristic thickening. Nerve damage has been documented with chronic exposures of greater than 500 ppm. Improvement in condition does not immediately follow removal from exposure and symptoms may progress for two or three months. Recovery may take a year or more depending on severity of exposure, and may not always be complete. Exposure to n-hexane with methyl ethyl ketone (MEK) will accelerate the appearance of damage, but MEK alone will not cause the nerve damage. Other isomers of hexane do not cause nerve damage. [Source: Shell Co.]</p>



## Solvent B1

<b>Skin Contact</b>	Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.	
	The material may accentuate any pre-existing dermatitis condition Repeated or prolonged contact with methylcyclohexane may result in itching, burning, redness, slight hypothermia, thickening and possible ulceration	
<b>Eye</b>	The liquid may be miscible with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives . Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.	
<b>Chronic</b>	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).	
	Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. Due to almost complete elimination of methylcyclohexane from the body, the danger of chronic poisoning is relatively slight	
	Chronic inhalation or skin exposure to n-hexane may cause peripheral neuropathy, which is damage to nerve ends in extremities, e.g. fingers, with loss of sensation and characteristic thickening. Nerve damage has been documented with chronic exposures of greater than 500 ppm. Improvement in condition does not immediately follow removal from exposure and symptoms may progress for two or three months. Recovery may take a year or more depending on severity of exposure, and may not always be complete. Exposure to n-hexane with methyl ethyl ketone (MEK) will accelerate the appearance of damage, but MEK alone will not cause the nerve damage. Other isomers of hexane do not cause nerve damage. [Source: Shell Co.] Chronic solvent inhalation exposures may result in nervous system impairment and liver and blood changes. [PATTYS]	
<b>Solvent B1</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>heptane</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Inhalation (rat) LC50: 103 mg/L/4hr <sup>[2]</sup>	Nil reported
<b>cyclohexane</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Inhalation (mouse) LC50: 70 mg/L/2hr <sup>[2]</sup> Oral (rat) LD50: 12705 mg/kg <sup>[2]</sup>	Skin(rabbit): 1548 mg/48hr - mild
<b>methylcyclohexane</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >=3080 mg/kg <sup>[1]</sup>	Nil reported
	Inhalation (mouse) LC50: 36.9 mg/L/2hr <sup>[2]</sup>	
	Inhalation (mouse) LC50: 41.5 mg/L/2hr <sup>[2]</sup>	
	Inhalation (rat) LC50: 33-42 mg/l/4hr <sup>[1]</sup> Oral (rat) LD50: >6160 mg/kg <sup>[1]</sup>	
<b>n-hexane</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >3301.5 mg/kg <sup>[1]</sup>	Eye(rabbit): 10 mg - mild
	Inhalation (rat) LC50: 48000 ppm/4hr <sup>[2]</sup> Oral (rat) LD50: 15847.2 mg/kg <sup>[1]</sup>	
<b>n-octane</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Inhalation (rat) LC50: 118 mg/L/4hr <sup>[2]</sup>	Not Available
	Inhalation (rat) LC50: 25260 ppm/4hr <sup>[2]</sup> Oral (rat) LD50: 5630 mg/kg <sup>[2]</sup>	
<b>naphtha petroleum, light, hydrotreated</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >1900 mg/kg <sup>[1]</sup> Oral (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Not Available

**Legend:**

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.\* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances



## Solvent B1

Acute Toxicity	☐	Carcinogenicity	☐
Skin Irritation/Corrosion	✓	Reproductivity	☐
Serious Eye Damage/Irritation	☐	STOT - Single Exposure	✓
Respiratory or Skin sensitisation	☐	STOT - Repeated Exposure	☐
Mutagenicity	☐	Aspiration Hazard	✓

Legend: ✗ – Data available but does not fill the criteria for classification  
✓ – Data required to make classification available  
☐ – Data Not Available to make classification

## SECTION 12 ECOLOGICAL INFORMATION

## Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
heptane	LC50	96	Fish	0.854mg/L	3
heptane	EC50	48	Crustacea	0.64mg/L	2
heptane	EC50	96	Algae or other aquatic plants	1.323mg/L	3
heptane	EC50	384	Crustacea	0.213mg/L	3
heptane	NOEC	504	Crustacea	0.17mg/L	2
cyclohexane	LC50	96	Fish	0.0045303mg/L	4
cyclohexane	EC50	48	Crustacea	0.00378810mg/L	4
cyclohexane	EC50	96	Algae or other aquatic plants	2.17mg/L	2
cyclohexane	EC50	3	Algae or other aquatic plants	0.0319884mg/L	4
cyclohexane	NOEC	72	Algae or other aquatic plants	0.9mg/L	2
methylcyclohexane	LC50	96	Fish	1.152mg/L	3
methylcyclohexane	EC50	48	Crustacea	0.00147315mg/L	4
methylcyclohexane	EC50	72	Algae or other aquatic plants	0.134mg/L	2
methylcyclohexane	EC50	3	Algae or other aquatic plants	0.01050847mg/L	4
methylcyclohexane	NOEC	72	Algae or other aquatic plants	0.0221mg/L	2
n-hexane	LC50	96	Fish	0.0025003mg/L	4
n-hexane	EC50	48	Crustacea	0.00387765mg/L	4
n-hexane	EC50	96	Algae or other aquatic plants	3.089mg/L	3
n-hexane	EC50	3	Algae or other aquatic plants	0.00809998mg/L	4
n-octane	LC50	96	Fish	0.427mg/L	3
n-octane	EC50	48	Crustacea	0.000376926mg/L	4
n-octane	EC50	96	Algae or other aquatic plants	0.556mg/L	3
n-octane	EC50	9	Algae or other aquatic plants	0.001mg/L	4
n-octane	NOEC	504	Crustacea	0.17mg/L	2
naphtha petroleum, light, hydrotreated	LC50	96	Fish	2.1-61.1mg/L	2
naphtha petroleum, light, hydrotreated	EC50	48	Crustacea	4.7mg/L	2
naphtha petroleum, light, hydrotreated	EC50	96	Algae or other aquatic plants	1.6-16.3mg/L	2
naphtha petroleum, light, hydrotreated	EC50	72	Algae or other aquatic plants	12.4mg/L	2
naphtha petroleum, light, hydrotreated	NOEC	72	Algae or other aquatic plants	6.47mg/L	2

## Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - 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

Very 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.

When spilled this product may act as a typical oil, causing a film, sheen, emulsion or sludge at or beneath the surface of the body of water. The oil film on water surface may physically affect the aquatic organisms, due to the interruption of the oxygen transfer between the air and the water

Oils of any kind can cause:

- ▶ drowning of water-fowl due to lack of buoyancy, loss of insulating capacity of feathers, starvation and vulnerability to predators due to lack of mobility
- ▶ lethal effects on fish by coating gill surfaces, preventing respiration
- ▶ asphyxiation of benthic life forms when floating masses become engaged with surface debris and settle on the bottom and
- ▶ adverse aesthetic effects of fouled shoreline and beaches

In case of accidental releases on the soil, a fine film is formed on the soil, which prevents the plant respiration process and the soil particle saturation. It may cause deep water infestation.

For n-heptane:

Continued...

## Solvent B1

log Kow : 4.66  
 Koc : 2400-8100  
 Half-life (hr) air : 52.8  
 Half-life (hr) H2O surface water : 2.9-312  
 Henry's atm m3 /mol: 2.06  
 BOD 5 if unstated: 1.92  
 COD : 0.06  
 BCF : 340-2000  
 log BCF : 2.53-3.31

**Environmental fate:**

Photolysis or hydrolysis of n-heptane are not expected to be important environmental fate processes. Biodegradation of n-heptane may occur in soil and water, however volatilisation and adsorption are expected to be more important fate processes. A high Koc (2400-8200) indicates n-heptane will be slightly mobile to immobile in soil. In aquatic systems n-heptane may partition from the water column to organic matter in sediments and suspended solids. The bioconcentration of n-heptane may be important in aquatic environments. The Henry's Law constant suggests rapid volatilisation from environmental waters and surface soils. The volatilisation half-lives from a model river and a model pond (the latter considers the effect of adsorption) have been estimated to be 2.9 hr and 13 days, respectively.

n-Heptane is expected to exist entirely in the vapour phase in ambient air. Reactions with photochemically produced hydroxyl radicals in the atmosphere have been shown to be important (estimated half-life of 2.4 days calculated from its rate constant of  $7.15 \times 10^{-12}$  cu cm/molecule-sec at 25 deg C). Data also suggests that night-time reactions with nitrate radicals may contribute to the atmospheric transformation of n-heptane, especially in urban environments. n-Heptane does not contain chromophores that absorb at wavelengths >290 nm and therefore is not expected to be susceptible to direct photolysis by sunlight

An estimated BCF of 2,000 using log Kow suggests the potential for bioconcentration in aquatic organisms is very high. Based on 100% degradation after 4 days in water inoculated with gasoline contaminated soil and 100% degradation after 25 days in water inoculated with activated sewage sludge, biodegradation is expected to be an important fate process for n-heptane in water.

**Ecotoxicity:**

Fish LC50 (48 h): goldfish (*Carrasius auratus*) 4 mg/l; golden orfe (*Idus melanotus*) 2940 mg/l; western mosquitofish (*Gambusia affinis*) 4924 mg/l  
 Daphnia LC50 (24 h): >10 mg/l  
 Daphnia EC50 (96 h): 82 mg/l (immobilisation)  
 Opposum shrimp (*Mysidopsis bahia*) LC50 (96 h): 0.1 mg/l  
 Snail EC50 (96 h): 472 mg/l

For cyclohexanes:

log Kow: 3.44  
 Water solubility: 54.8 mg/l (25 C)  
 Vapour pressure 97.6 mm Hg (25 C)  
 Henry's Law Constant: 0.193 atm-m3/mole  
 Koc : 480  
 Half-life (hr) air : 6-52  
 Half-life (hr) H2O surface water : 2  
 ThOD : 3.42  
 BCF : 242

**Environmental fate:**

**Terrestrial fate:** If released on land cyclohexane will be lost by volatilisation and should leach into the ground. Cyclohexane is resistant to biodegradation but may slowly biodegrade in the presence of other hydrocarbons that are themselves biodegraded.

**Aquatic fate:** Volatilisation from water (estimated half-life 2 hours in a model river) should be the most important fate process in aquatic systems.

**Atmospheric fate:** In the atmosphere, cyclohexane will degrade by reaction with photochemically produced hydroxyl radicals (half-life 52 hours). The half-life is much shorter under photochemical smog conditions with half-lives as low as 6 hours being reported.

**Biodegradation:** Cyclohexanes are highly resistant to biodegradation and are catabolised chiefly by cooxidation. Thus they do not support growth of the degrading organism themselves but are metabolised during the course of the microorganisms growth on another, usually similar substrate. Initial attack involves oxygenation and subsequent ring cleavage to simply degradable acids. 10% degradation in 12 hours was reported by microorganisms isolated from a brackish creek in an area usually exposed to oil.

**Abiotic degradation:** In the atmosphere cyclohexane reacts with photochemically produced hydroxyl radicals with a half-life of 52 hours based on a recommended rate constant of  $7.38 \times 10^{-12}$  cm<sup>3</sup>/mol-sec and a hydroxyl radical concentration of  $5 \times 10^5$  cm<sup>3</sup>/sec. Photodegradation is much faster in the presence of nitrogen oxides (photochemical smog conditions).

Compared with other solvents, the reactivity of cyclohexane (measured by ozone forming potential) is relatively low (2 on a scale of 5). Products of reaction are cyclohexanone, cyclohexyl nitrate and unidentified carbonyl compounds resulting from ring cleavage.

Cyclohexane does not have any chromophores that absorb UV radiation at >290 nm so should not be subject to direct photolysis.

**Bioconcentration Factor (BCF):** Using log Kow a BCF of 242 can be estimated; some bioconcentration is expected. Significant risk of bioaccumulation is likely

**Soil adsorption/ mobility:** The estimated Koc for cyclohexane (from its water solubility) is 480 indicating moderate soil adsorptivity. Test results show a small interaction with soil adsorbents and adsorptivity was only casually related to the organic carbon content of sediment. Adsorption constants for cyclohexane in three sediments ranged from 13 to 61.1 and 0.6 (mg/g/ mg/l) in montmorillonite and illite, respectively.

Volatilisation from water/ soil. The very high Henry's law constant indicates rapid volatilisation from water with the rate being controlled by diffusion through the liquid phase. A volatilisation half-life from a model river 1 m deep with a 1 m/sec current and a 3 m/sec wind is calculated to be 2.8 hours. In view of the high vapour pressure and moderate adsorption to soil, volatilisation from soil and surfaces should be considerable.

**Ecotoxicity:**

Fish LC50 (96 h) Pimephales promelus 4.53 mg/l (flow through); Lepomis macrochirus 34.72 mg/l; Poecilia reticulata 48 mg/l  
 Daphnia EC50 (48 h): 400 mg/l  
 Algal EC50 (72 h): Scenedesmus subspicatus >500 mg/l  
 Photobacterium phosphoreum EC50 (5 min) 85.5 mg/l; (10 min) 93 mg/l

**DO NOT discharge into sewer or waterways.**

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
heptane	LOW	LOW
cyclohexane	HIGH (Half-life = 360 days)	LOW (Half-life = 3.63 days)
methylcyclohexane	LOW	LOW
n-hexane	LOW	LOW
n-octane	LOW	LOW

**Bioaccumulative potential**

Ingredient	Bioaccumulation
heptane	HIGH (LogKOW = 4.66)
cyclohexane	LOW (BCF = 242)
methylcyclohexane	LOW (BCF = 321)
n-hexane	MEDIUM (LogKOW = 3.9)
n-octane	HIGH (LogKOW = 5.18)

## Solvent B1

## Mobility in soil

Ingredient	Mobility
heptane	LOW (KOC = 274.7)
cyclohexane	LOW (KOC = 165.5)
methylcyclohexane	LOW (KOC = 268)
n-hexane	LOW (KOC = 149)
n-octane	LOW (KOC = 506.7)


## SECTION 13 DISPOSAL CONSIDERATIONS

## Waste treatment methods

<b>Product / Packaging disposal</b>	<p>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.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> <li>▶ Reduction</li> <li>▶ Reuse</li> <li>▶ Recycling</li> <li>▶ Disposal (if all else fails)</li> </ul> <p>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.</p> <ul style="list-style-type: none"> <li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>▶ It may be necessary to collect all wash water for treatment before disposal.</li> <li>▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>▶ Where in doubt contact the responsible authority.</li> <li>▶ Recycle wherever possible.</li> <li>▶ 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.</li> <li>▶ Dispose of by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material).</li> <li>▶ Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.</li> </ul>
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## SECTION 14 TRANSPORT INFORMATION

## Labels Required

	
<b>Marine Pollutant</b>	NO
<b>HAZCHEM</b>	3YE

## Land transport (ADG)

<b>UN number</b>	3295				
<b>UN proper shipping name</b>	HYDROCARBONS, LIQUID, N.O.S.				
<b>Transport hazard class(es)</b>	<table border="1"> <tbody> <tr> <td>Class</td> <td>3</td> </tr> <tr> <td>Subrisk</td> <td>Not Applicable</td> </tr> </tbody> </table>	Class	3	Subrisk	Not Applicable
Class	3				
Subrisk	Not Applicable				
<b>Packing group</b>	II				
<b>Environmental hazard</b>	Not Applicable				
<b>Special precautions for user</b>	<table border="1"> <tbody> <tr> <td>Special provisions</td> <td>Not Applicable</td> </tr> <tr> <td>Limited quantity</td> <td>1 L</td> </tr> </tbody> </table>	Special provisions	Not Applicable	Limited quantity	1 L
Special provisions	Not Applicable				
Limited quantity	1 L				

## Air transport (ICAO-IATA / DGR)

<b>UN number</b>	3295						
<b>UN proper shipping name</b>	Hydrocarbons, liquid, n.o.s.						
<b>Transport hazard class(es)</b>	<table border="1"> <tbody> <tr> <td>ICAO/IATA Class</td> <td>3</td> </tr> <tr> <td>ICAO / IATA Subrisk</td> <td>Not Applicable</td> </tr> <tr> <td>ERG Code</td> <td>3H</td> </tr> </tbody> </table>	ICAO/IATA Class	3	ICAO / IATA Subrisk	Not Applicable	ERG Code	3H
ICAO/IATA Class	3						
ICAO / IATA Subrisk	Not Applicable						
ERG Code	3H						
<b>Packing group</b>	II						
<b>Environmental hazard</b>	Not Applicable						

## Solvent B1

<b>Special precautions for user</b>	Special provisions	A3 A324
	Cargo Only Packing Instructions	364
	Cargo Only Maximum Qty / Pack	60 L
	Passenger and Cargo Packing Instructions	353
	Passenger and Cargo Maximum Qty / Pack	5 L
	Passenger and Cargo Limited Quantity Packing Instructions	Y341
	Passenger and Cargo Limited Maximum Qty / Pack	1 L

**Sea transport (IMDG-Code / GGVSee)**

<b>UN number</b>	3295		
<b>UN proper shipping name</b>	HYDROCARBONS, LIQUID, N.O.S.		
<b>Transport hazard class(es)</b>	IMDG Class	3	
	IMDG Subrisk	Not Applicable	
<b>Packing group</b>	II		
<b>Environmental hazard</b>	Not Applicable		
<b>Special precautions for user</b>	EMS Number	F-E, S-D	
	Special provisions	Not Applicable	
	Limited Quantities	1 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****HEPTANE(142-82-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Exposure Standards

Australia Inventory of Chemical Substances (AICS)

Australia Hazardous Substances Information System - Consolidated Lists

**CYCLOHEXANE(110-82-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Exposure Standards

Australia Inventory of Chemical Substances (AICS)

Australia Hazardous Substances Information System - Consolidated Lists

**METHYLCYCLOHEXANE(108-87-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Exposure Standards

Australia Inventory of Chemical Substances (AICS)

Australia Hazardous Substances Information System - Consolidated Lists

**N-HEXANE(110-54-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Exposure Standards

Australia Inventory of Chemical Substances (AICS)

Australia Hazardous Substances Information System - Consolidated Lists

**N-OCTANE(111-65-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Exposure Standards

Australia Inventory of Chemical Substances (AICS)

Australia Hazardous Substances Information System - Consolidated Lists

**NAPHTHA PETROLEUM, LIGHT, HYDROTREATED(64742-49-0.) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Hazardous Substances Information System - Consolidated Lists

Australia Inventory of Chemical Substances (AICS)

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (methylcyclohexane; cyclohexane; n-octane; n-hexane; naphtha petroleum, light, hydrotreated; heptane)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (naphtha petroleum, light, hydrotreated)
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y

**Legend:**

Y = All ingredients are on the inventory

N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

Continued...

**Solvent B1****SECTION 16 OTHER INFORMATION****Other information****Ingredients with multiple cas numbers**

Name	CAS No
heptane	142-82-5, 31394-54-4

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

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net](http://www.chemwatch.net)

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

**Definitions and abbreviations**

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

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TEL (+61 3) 9572 4700.