



## MIROBILD AC 3606

Mirotone (NZ) Ltd

Chemwatch: 5130-20

Version No: 7.1.1.1

Safety Data Sheet according to HSNO Regulations

Chemwatch Hazard Alert Code: 3

Issue Date: 05/05/2015

Print Date: 06/09/2015

Initial Date: Not Available

L.GHS.NZL.EN

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

#### Product Identifier

Product name	MIROBILD AC 3606
Synonyms	MIROBILD AC 3606 CLEAR GLOSS T/C, MIROBILD AC 3606/10 CLEAR MATT T/C, MIROBILD AC 3606/30 CLEAR SATIN T/C, MIROBILD AC 3606/60 CLEAR S/GLOSS, Product Code: 3606
Proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)
Other means of identification	Not Available

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

Relevant identified uses	Requires that the two parts be mixed by hand or mixer before use, in accordance with manufacturers directions. Mix only as much as is required. <b>Do not</b> return the mixed material to the original containers Use according to manufacturer's directions. The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation. Clear coating for Furniture
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#### Details of the manufacturer/importer

Registered company name	Mirotone (NZ) Ltd
Address	32 Cryers Road New Zealand
Telephone	0800 FINISH (0800 346 474)
Fax	0800 346 434
Website	mirotone.com
Email	information@mirotone.co.nz

#### Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	111
Other emergency telephone numbers	Not Available

#### CHEMWATCH EMERGENCY RESPONSE

Primary Number	Alternative Number 1	Alternative Number 2
+800 2436 2255	+612 9186 1132	Not Available

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

### SECTION 2 HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

**Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation.**  
**Classified as Dangerous Goods for transport purposes.**

#### CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	3	
Toxicity	2	
Body Contact	3	
Reactivity	1	
Chronic	3	

0 = Minimum  
1 = Low  
2 = Moderate  
3 = High  
4 = Extreme

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## MIROBILD AC 3606

<b>GHS Classification</b> <sup>[1]</sup>	Flammable Liquid Category 2, Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 4, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Serious Eye Damage Category 1, Skin Sensitizer Category 1, Carcinogen Category 2, Reproductive Toxicity Category 1B, STOT - SE (Resp. Irr.) Category 3, STOT - SE (Narcosis) Category 3, Aspiration Hazard Category 1, Acute Aquatic Hazard Category 2
<b>Legend:</b>	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI
<b>Determined by Chemwatch using GHS/HSNO criteria</b>	3.1B, 6.1D (dermal), 6.1D (inhalation), 6.1D (oral), 6.1E (aspiration), 6.3A, 6.5B (contact), 6.7B, 6.8A, 6.9 (narcotic), 6.9 (respiratory), 8.3A, 9.1B

## Label elements

<b>GHS label elements</b>	
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## SIGNAL WORD

**DANGER**

## Hazard statement(s)

<b>H225</b>	Highly flammable liquid and vapour
<b>H302</b>	Harmful if swallowed
<b>H312</b>	Harmful in contact with skin
<b>H332</b>	Harmful if inhaled
<b>H315</b>	Causes skin irritation
<b>H318</b>	Causes serious eye damage
<b>H317</b>	May cause an allergic skin reaction
<b>H351</b>	Suspected of causing cancer
<b>H360</b>	May damage fertility or the unborn child
<b>H335</b>	May cause respiratory irritation
<b>H336</b>	May cause drowsiness or dizziness
<b>H304</b>	May be fatal if swallowed and enters airways
<b>H401</b>	Toxic to aquatic life

## Precautionary statement(s) Prevention

<b>P201</b>	Obtain special instructions before use.
<b>P210</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
<b>P271</b>	Use only outdoors or in a well-ventilated area.
<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection.
<b>P240</b>	Ground/bond container and receiving equipment.
<b>P241</b>	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
<b>P242</b>	Use only non-sparking tools.
<b>P243</b>	Take precautionary measures against static discharge.
<b>P261</b>	Avoid breathing dust/fume/gas/mist/vapours/spray.
<b>P270</b>	Do not eat, drink or smoke when using this product.
<b>P273</b>	Avoid release to the environment.
<b>P272</b>	Contaminated work clothing should not be allowed out of the workplace.

## Precautionary statement(s) Response

<b>P301+P310</b>	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider
<b>P305+P351+P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>P308+P313</b>	IF exposed or concerned: Get medical advice/attention.
<b>P331</b>	Do NOT induce vomiting.
<b>P370+P378</b>	In case of fire: Use alcohol resistant foam or normal protein foam for extinction.
<b>P302+P352</b>	IF ON SKIN: Wash with plenty of water and soap
<b>P333+P313</b>	If skin irritation or rash occurs: Get medical advice/attention.
<b>P362+P364</b>	Take off contaminated clothing and wash it before reuse.
<b>P301+P312</b>	IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
<b>P303+P361+P353</b>	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
<b>P304+P340</b>	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
<b>P330</b>	Rinse mouth.

## Precautionary statement(s) Storage

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

**Precautionary statement(s) Disposal**

P501	Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration
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**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS****Substances**

See section below for composition of Mixtures

**Mixtures**

CAS No	%[weight]	Name
Not Available	30-60	resins
123-86-4	30-60	<u>n-butyl acetate</u>
78-93-3	10-30	<u>methyl ethyl ketone</u>
78-83-1	10-30	<u>isobutanol</u>
64-17-5	0-10	<u>ethanol</u>
71-36-3	0-10	<u>n-butanol</u>
1330-20-7	0-10	<u>xylene</u>
110-43-0	0-10	<u>amyl methyl ketone</u>
108-10-1	0-10	<u>methyl isobutyl ketone</u>
101-85-9	0-10	<u>alpha-amylcinnamic alcohol</u>
117-81-7	0-10	<u>di-sec-octyl phthalate</u>
	balance	Ingredients determined not to be hazardous

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

**SECTION 4 FIRST AID MEASURES**

NZ Poisons Centre 0800 POISON (0800 764 766) | NZ Emergency Services: 111

**Description of first aid measures**

<b>Eye Contact</b>	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ 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.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</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 or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ 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.</li> <li>▶ Transport to hospital, or doctor, without delay.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <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> </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.

To treat poisoning by the higher aliphatic alcohols (up to C7):

- ▶ Gastric lavage with copious amounts of water.
- ▶ It may be beneficial to instill 60 ml of mineral oil into the stomach.
- ▶ Oxygen and artificial respiration as needed.
- ▶ Electrolyte balance: it may be useful to start 500 ml M/6 sodium bicarbonate intravenously but maintain a cautious and conservative attitude toward electrolyte replacement unless shock or severe acidosis threatens.
- ▶ To protect the liver, maintain carbohydrate intake by intravenous infusions of glucose.
- ▶ Haemodialysis if coma is deep and persistent. [GOSSELIN, SMITH HODGE: Clinical Toxicology of Commercial Products, Ed 5]

**BASIC TREATMENT**

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- ▶ Establish a patent airway with suction where necessary.
- ▶ Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- ▶ Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- ▶ Monitor and treat, where necessary, for shock.
- ▶ Monitor and treat, where necessary, for pulmonary oedema.
- ▶ Anticipate and treat, where necessary, for seizures.
- ▶ **DO NOT use emetics.** Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.
- ▶ Give activated charcoal.

## ADVANCED TREATMENT

- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive-pressure ventilation using a bag-valve mask might be of use.
- ▶ Monitor and treat, where necessary, for arrhythmias.
- ▶ Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- ▶ If the patient is hypoglycaemic (decreased or loss of consciousness, tachycardia, pallor, dilated pupils, diaphoresis and/or dextrose strip or glucometer readings below 50 mg), give 50% dextrose.
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- ▶ Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

## EMERGENCY DEPARTMENT

- ▶ Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime. Other useful analyses include anion and osmolar gaps, arterial blood gases (ABGs), chest radiographs and electrocardiograph.
- ▶ Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.
- ▶ Acidosis may respond to hyperventilation and bicarbonate therapy.
- ▶ Haemodialysis might be considered in patients with severe intoxication.
- ▶ Consult a toxicologist as necessary. BRONSTEIN, A.C. and CURRANCE, P.L. EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

For C8 alcohols and above.

Symptomatic and supportive therapy is advised in managing patients.

## SECTION 5 FIREFIGHTING MEASURES

## Extinguishing media

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

## Special hazards arising from the substrate or mixture

- | Fire Incompatibility |  |
|----------------------|--|
|                      | ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |

## Advice for firefighters

## Fire Fighting

- ▶ Alert Fire Brigade and tell them location and nature of hazard.
- ▶ May be violently or explosively reactive.
- ▶ Wear breathing apparatus plus protective gloves in the event of a fire.
- ▶ Prevent, by any means available, spillage from entering drains or water course.
- ▶ Consider evacuation (or protect in place).
- ▶ Fight fire from a safe distance, with adequate cover.
- ▶ If safe, switch off electrical equipment until vapour fire hazard removed.
- ▶ Use water delivered as a fine spray to control the 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 highly flammable.
  - ▶ Severe fire hazard when exposed to heat, flame and/or oxidisers.
  - ▶ Vapour may travel a considerable distance to source of ignition.
  - ▶ Heating may cause expansion or decomposition leading to violent rupture of containers.
  - ▶ On combustion, may emit toxic fumes of carbon monoxide (CO).
- Combustion products include; carbon dioxide (CO<sub>2</sub>) nitrogen oxides (NO<sub>x</sub>) other pyrolysis products typical of burning organic material

## SECTION 6 ACCIDENTAL RELEASE MEASURES

## Personal precautions, protective equipment and emergency procedures

## 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.

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- ▶ Prevent, by any means available, spillage from entering drains or water course.
- ▶ Consider evacuation (or protect in place).
- ▶ No smoking, naked lights or ignition sources.
- ▶ 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.

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

## SECTION 7 HANDLING AND STORAGE

## Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> <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 MSDS.</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 MSDS.</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>▶ 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.</li> <li>▶ For materials with a viscosity of at least 2680 cSt. (23 deg. C)</li> <li>▶ For manufactured product having a viscosity of at least 250 cSt. (23 deg. C)</li> <li>▶ 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.</li> <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>
Storage incompatibility	<ul style="list-style-type: none"> <li>▶ Avoid reaction with oxidising agents</li> </ul>

## PACKAGE MATERIAL INCOMPATIBILITIES

Not Available

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

## Control parameters

## OCCUPATIONAL EXPOSURE LIMITS (OEL)

## INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
New Zealand Workplace Exposure Standards (WES)	n-butyl acetate	n-Butyl acetate	713 mg/m3 / 150 ppm	950 mg/m3 / 200 ppm	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	methyl ethyl ketone	Methyl ethyl ketone	445 mg/m3 / 150 ppm	890 mg/m3 / 300 ppm	Not Available	Exposure can also be estimated by biological monitoring.
New Zealand Workplace Exposure Standards (WES)	isobutanol	Isobutyl alcohol	152 mg/m3 / 50 ppm	Not Available	Not Available	Not Available

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New Zealand Workplace Exposure Standards (WES)	ethanol	Ethyl alcohol	1880 mg/m <sup>3</sup> / 1000 ppm	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	n-butanol	n-Butyl alcohol	Not Available	Not Available	150 mg/m <sup>3</sup> / 50 ppm	Skin absorption
New Zealand Workplace Exposure Standards (WES)	xylene	Xylene (o-, m-, p-isomers)	217 mg/m <sup>3</sup> / 50 ppm	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	amyl methyl ketone	Methyl n-amyl ketone	233 mg/m <sup>3</sup> / 50 ppm	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	methyl isobutyl ketone	Methyl isobutyl ketone	205 mg/m <sup>3</sup> / 50 ppm	307 mg/m <sup>3</sup> / 75 ppm	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	di-sec-octyl phthalate	Di-sec-octyl phthalate	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	Not Available

## EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
n-butyl acetate	Butyl acetate, n-	Not Available	Not Available	Not Available
methyl ethyl ketone	Butanone, 2-; (Methyl ethyl ketone; MEK)	Not Available	Not Available	Not Available
isobutanol	Isobutyl alcohol	150 ppm	1300 ppm	8000 ppm
ethanol	Ethyl alcohol; (Ethanol)	Not Available	Not Available	Not Available
n-butanol	Butyl alcohol, n-; (n-Butanol)	20 ppm	50 ppm	8000 ppm
xylene	Xylenes	Not Available	Not Available	Not Available
amyl methyl ketone	Methyl n-amyl ketone	50 ppm	50 ppm	4000 ppm
methyl isobutyl ketone	Methyl isobutyl ketone; (Hexone)	75 ppm	75 ppm	3000 ppm
di-sec-octyl phthalate	Di-sec-octylphthalate	10 mg/m <sup>3</sup>	31 mg/m <sup>3</sup>	5900 mg/m <sup>3</sup>

Ingredient	Original IDLH	Revised IDLH
resins	Not Available	Not Available
n-butyl acetate	10,000 ppm	1,700 [LEL] ppm
methyl ethyl ketone	3,000 ppm	3,000 [Unch] ppm
isobutanol	8,000 ppm	1,600 ppm
ethanol	15,000 ppm	3,300 [LEL] ppm
n-butanol	8,000 ppm	1,400 [LEL] ppm
xylene	1,000 ppm	900 ppm
amyl methyl ketone	4,000 ppm	800 ppm
methyl isobutyl ketone	3,000 ppm	500 ppm
alpha-amylcinnamic alcohol	Not Available	Not Available
di-sec-octyl phthalate	Unknown mg/m <sup>3</sup> / Unknown ppm	5,000 mg/m <sup>3</sup>

## MATERIAL DATA

Exposed individuals are reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Odour Safety Factor (OSF) is determined to fall into either Class A or B.

The Odour Safety Factor (OSF) is defined as:

OSF = Exposure Standard (TWA) ppm / Odour Threshold Value (OTV) ppm

Classification into classes follows:

Class OSF Description

A 550 Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV-TWA for example) is being reached, even when distracted by working activities

B 26-550 As "A" for 50-90% of persons being distracted

C 1-26 As "A" for less than 50% of persons being distracted

D 0.18-1 10-50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached

E <0.18 As "D" for less than 10% of persons aware of being tested


Odour Safety Factor(OSF) OSF=28 (METHYL ETHYL KETONE)

## Exposure controls

Appropriate engineering controls	<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> <p>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.</p>			
	<table> <tr> <td>Type of Contaminant:</td><td>Air Speed:</td></tr> <tr> <td>solvent, vapours, degreasing etc., evaporating from tank (in still air).</td><td>0.25-0.5 m/s (50-100 f/min.)</td></tr> </table>	Type of Contaminant:	Air Speed:	solvent, vapours, degreasing etc., evaporating from tank (in still air).
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.)			

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	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:										
	<table><tr><th>Lower end of the range</th><th>Upper end of the range</th></tr><tr><td>1: Room air currents minimal or favourable to capture</td><td>1: Disturbing room air currents</td></tr><tr><td>2: Contaminants of low toxicity or of nuisance value only.</td><td>2: Contaminants of high toxicity</td></tr><tr><td>3: Intermittent, low production.</td><td>3: High production, heavy use</td></tr><tr><td>4: Large hood or large air mass in motion</td><td>4: Small hood-local control only</td></tr></table>	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
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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	<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><b>NOTE:</b></p> <ul style="list-style-type: none"><li>▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.</li><li>▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.</li></ul>										
Body protection	See Other protection below										
Other protection	<ul style="list-style-type: none"><li>▶ Overalls.</li><li>▶ PVC Apron.</li><li>▶ PVC protective suit may be required if exposure severe.</li><li>▶ Eyewash unit.</li><li>▶ Ensure there is ready access to a safety shower.</li></ul>										
Thermal hazards	Not Available										

## Recommended material(s)

## GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

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Material	CPI
BUTYL	C
BUTYL/NEOPRENE	C
HYPALON	C
NAT+NEOPR+NITRILE	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE	C
NITRILE+PVC	C
PE	C
PE/EVAL/PE	C
PVA	C
PVC	C
PVDC/PE/PVDC	C

## Respiratory protection

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

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	AX-AUS / Class 1 P2	-	AX-PAPR-AUS / Class 1 P2
up to 50 x ES	Air-line*	-	-
up to 100 x ES	-	AX-3 P2	-
100+ x ES	-	Air-line**	-

\* - Continuous-flow; \*\* - Continuous-flow or positive pressure demand

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

Continued...



## MIROBILD AC 3606

SARANEX-23	C
TEFLON	C
VITON	C
VITON/BUTYL	C
VITON/NEOPRENE	C
##methyl ethyl	ketone
##methyl isobutyl	ketone
##di-sec-octyl	phthalate

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

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

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

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

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

## Information on basic physical and chemical properties

<b>Appearance</b>	Colourless to milky highly flammable liquid with a strong solvent odour; slightly miscible with water.		
<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	0.95-1.00
<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 Applicable	<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>	Not Available	<b>Molecular weight (g/mol)</b>	Not Applicable
<b>Flash point (°C)</b>	-6.7	<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>	40-45 (VOC=530-580 g/l)
<b>Vapour pressure (kPa)</b>	Not Available	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Partly miscible	<b>pH as a solution (1%)</b>	Not Applicable
<b>Vapour density (Air = 1)</b>	>1	<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>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.</p> <p>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>Exposure to ketone vapours may produce nose, throat and mucous membrane irritation. High concentrations of vapour may produce central nervous system</p>
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Continued...



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	depression characterised by headache, vertigo, loss of coordination, narcosis and cardiorespiratory failure. Some ketones produce neurological disorders (polyneuropathy) characterised by bilateral symmetrical paresthesia and muscle weakness primarily in the legs and arms. Exposure to aliphatic alcohols with more than 3 carbons may produce central nervous system effects such as headache, dizziness, drowsiness, muscle weakness, delirium, CNS depression, coma, seizure, and neurobehavioural changes. Symptoms are more acute with higher alcohols. Respiratory tract involvement may produce irritation of the mucosa, respiratory insufficiency, respiratory depression secondary to CNS depression, pulmonary oedema, chemical pneumonitis and bronchitis. Cardiovascular involvement may result in arrhythmias and hypotension. Gastrointestinal effects may include nausea and vomiting. Kidney and liver damage may result following massive exposures. The alcohols are potential irritants being, generally, stronger irritants than similar organic structures that lack functional groups (e.g. alkanes) but are much less irritating than the corresponding amines, aldehydes or ketones. Alcohols and glycols (diols) rarely represent serious hazards in the workplace, because their vapour concentrations are usually less than the levels which produce significant irritation which, in turn, produce significant central nervous system effects as well.
<b>Ingestion</b>	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. Swallowing of the liquid may cause aspiration of vomit into the lungs with the risk of haemorrhaging, pulmonary oedema, progressing to chemical pneumonitis; serious consequences may result. Signs and symptoms of chemical (aspiration) pneumonitis may include coughing, gasping, choking, burning of the mouth, difficult breathing, and bluish coloured skin (cyanosis). Minor ingestion may cause disorientation, mental confusion, slurred speech. Major ingestion may be highly toxic and blood alcohol contents above 0.2% may result in death; brain damage. Susceptibility to effects varies widely.
<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 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>Eye</b>	When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.
<b>Chronic</b>	Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.  Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. 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. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production. Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals. Sensitisation may give severe responses to very low levels of exposure, in situations where exposure may occur. Sensitisation reactions may appear suddenly after repeated symptom free exposures 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.  Ingestion may result in intoxication, drunkenness. In chronic form this may result in alcoholism, liver damage.

<b>MIROBILD AC 3606</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>n-butyl acetate</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >14080 mg/kg <sup>[1]</sup>	* [PPG]
	Inhalation (rat) LC50: 2000 ppm/4H <sup>[2]</sup>	Eye (human): 300 mg
	Inhalation (rat) LC50: 390 ppm/4h <sup>[2]</sup>	Eye (rabbit): 20 mg (open)-SEVERE
	Oral (rat) LD50: 10736 mg/kg <sup>[1]</sup>	Eye (rabbit): 20 mg/24h - moderate Skin (rabbit): 500 mg/24h-moderate
<b>methyl ethyl ketone</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >8100 mg/kg <sup>[1]</sup>	- mild
	Inhalation (rat) LC50: 23.5 mg/L/8h <sup>[2]</sup>	Eye (human): 350 ppm -irritant
	Inhalation (rat) LC50: 50.1 mg/L/8 hr <sup>[2]</sup>	Eye (rabbit): 80 mg - irritant
	Oral (rat) LD50: 3474.9 mg/kg <sup>[1]</sup>	Skin (rabbit): 402 mg/24 hr - mild Skin (rabbit): 13.78mg/24 hr open
<b>isobutanol</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >2000 mg/kg <sup>[1]</sup>	Eye (rabbit): 2 20 mg/24h-moderate Inhalation (rat) LC50: 19.2 mg/L/4H <sup>[2]</sup>
		Eye (rabbit): 2 mg/24h - SEVERE

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	Oral (rat) LD50: 2460 mg/kg <sub>E</sub> <sup>[2]</sup>	Skin (rabbit): mg (open)-SEVERE
ethanol	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 17100 mg/kg <sup>[1]</sup>	Eye (rabbit): 500 mg SEVERE
	Inhalation (rat) LC50: 64000 ppm/4h <sup>[2]</sup>	Eye (rabbit):100mg/24hr-moderate
	Oral (rat) LD50: >11872769 mg/kg <sup>[1]</sup>	Skin (rabbit):20 mg/24hr-moderate
		Skin (rabbit):400 mg (open)-mild
n-butanol	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 3434.4 mg/kg <sup>[1]</sup>	Eye (human): 50 ppm - irritant
	Inhalation (rat) LC50: 24 mg/L/4h <sup>[2]</sup>	Eye (rabbit): 1.6 mg-SEVERE
	Inhalation (rat) LC50: 8000 ppm/4h <sup>[2]</sup>	Eye (rabbit): 24 mg/24h-SEVERE
	Oral (rat) LD50: 2292.3 mg/kg <sup>[1]</sup>	Skin (rabbit): 405 mg/24h-moderate
xylene	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >1700 mg/kg <sup>[2]</sup>	Eye (human): 200 ppm irritant
	Inhalation (rat) LC50: 5000 ppm/4h <sup>[2]</sup>	Eye (rabbit): 5 mg/24h SEVERE
	Oral (rat) LD50: 4300 mg/kg <sup>[2]</sup>	Eye (rabbit): 87 mg mild
		Skin (rabbit):500 mg/24h moderate
amyl methyl ketone	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 12600 mg/kg <sup>[2]</sup>	Skin (rabbit): 14 mg/24h Mild
	Inhalation (rat) LC50: 4000 ppm/4h <sup>[2]</sup>	Skin (rabbit): Primary Irritant
	Oral (rat) LD50: 1670 mg/kg <sup>[2]</sup>	
methyl isobutyl ketone	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >16000 mg/kg <sup>[1]</sup>	Eye (human): 200 ppm/15m
	Oral (rat) LD50: 2984 mg/kg <sup>[1]</sup>	Eye (rabbit): 40 mg - SEVERE
		Eye (rabbit): 500 mg/24h - mild
		Skin (rabbit): 500 mg/24h - mild
alpha-amylcinnamic alcohol	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >5000 mg/kg <sup>[2]</sup>	Not Available
	Oral (rat) LD50: 4000 mg/kg <sup>[2]</sup>	
di-sec-octyl phthalate	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 25000 mg/kg <sup>[2]</sup>	Eye (rabbit): 500 mg/24h mild
	Oral (rat) LD50: 30000 mg/kg <sup>[2]</sup>	Skin (rabbit): 500 mg/24h mild
<b>Legend:</b>	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's msds. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

<b>N-BUTYL ACETATE</b>	<p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.</p>
<b>METHYL ETHYL KETONE</b>	<p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. 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. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.</p> <p>Methyl ethyl ketone is considered to have a low order of toxicity; however methyl ethyl ketone is often used in combination with other solvents and the toxic effects of the mix may be greater than either solvent alone. Combinations of n-hexane with methyl ethyl ketone and also methyl n-butyl ketone with methyl ethyl ketone show increase in peripheral neuropathy, a progressive disorder of nerves of extremities.</p> <p>Combinations with chloroform also show increase in toxicity</p>

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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 required to make classification available  
 ✗ – Data available but does not fill the criteria for classification  
 ⊖ – Data Not Available to make classification

## CMR STATUS

REPROTOXIN	methyl ethyl ketone	ILO Chemicals in the electronics industry that have toxic effects on reproduction	
	xylene	ILO Chemicals in the electronics industry that have toxic effects on reproduction	
SKIN	n-butanol	New Zealand Workplace Exposure Standards (WES) - Skin	Skin absorption

## SECTION 12 ECOLOGICAL INFORMATION

## Toxicity

## NOT AVAILABLE

Ingredient	Endpoint	Test Duration	Effect	Value	Species	BCF
resins	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
n-butyl acetate	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
methyl ethyl ketone	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
isobutanol	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
ethanol	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
n-butanol	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
xylene	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
amyl methyl ketone	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
methyl isobutyl ketone	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
alpha-amylcinnamic alcohol	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
di-sec-octyl phthalate	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

Toxic to aquatic organisms.

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.

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

## Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
n-butyl acetate	LOW	LOW
methyl ethyl ketone	LOW (Half-life = 14 days)	LOW (Half-life = 26.75 days)
isobutanol	LOW (Half-life = 14.42 days)	LOW (Half-life = 4.15 days)
ethanol	LOW (Half-life = 2.17 days)	LOW (Half-life = 5.08 days)
n-butanol	LOW (Half-life = 54 days)	LOW (Half-life = 3.65 days)
xylene	HIGH (Half-life = 360 days)	LOW (Half-life = 1.83 days)
amyl methyl ketone	LOW	LOW
methyl isobutyl ketone	HIGH (Half-life = 7001 days)	LOW (Half-life = 1.9 days)
alpha-amylcinnamic alcohol	LOW	LOW
di-sec-octyl phthalate	HIGH (Half-life = 389 days)	LOW (Half-life = 1.21 days)

## Bioaccumulative potential

Ingredient	Bioaccumulation
n-butyl acetate	LOW (BCF = 14)
methyl ethyl ketone	LOW (LogKOW = 0.29)
isobutanol	LOW (LogKOW = 0.76)
ethanol	LOW (LogKOW = -0.31)
n-butanol	LOW (BCF = 64)
xylene	MEDIUM (BCF = 740)
amyl methyl ketone	LOW (LogKOW = 1.98)
methyl isobutyl ketone	LOW (LogKOW = 1.31)

Continued...

alpha-amylicinnamic alcohol	MEDIUM (LogKOW = 4.3544)
di-sec-octyl phthalate	HIGH (BCF = 24500)

**Mobility in soil**

Ingredient	Mobility
n-butyl acetate	LOW (KOC = 20.86)
methyl ethyl ketone	MEDIUM (KOC = 3.827)
isobutanol	MEDIUM (KOC = 2.048)
ethanol	HIGH (KOC = 1)
n-butanol	MEDIUM (KOC = 2.443)
amyl methyl ketone	LOW (KOC = 24.01)
methyl isobutyl ketone	LOW (KOC = 10.91)
alpha-amylicinnamic alcohol	LOW (KOC = 1046)
di-sec-octyl phthalate	LOW (KOC = 165400)

**SECTION 13 DISPOSAL CONSIDERATIONS****Waste treatment methods**

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>Containers may still present a chemical hazard/ danger when empty.</li> <li>Return to supplier for reuse/ recycling if possible.</li> </ul> <p>Otherwise:</p> <ul style="list-style-type: none"> <li>If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.</li> <li>Where possible retain label warnings and MSDS and observe all notices pertaining to the product.</li> </ul>
	Ensure that the disposal of material is carried out in accordance with Hazardous Substances (Disposal) Regulations 2001.

**SECTION 14 TRANSPORT INFORMATION****Labels Required**

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

**Land transport (UN)**

<b>UN number</b>	1263				
<b>Packing group</b>	II				
<b>UN proper shipping name</b>	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)				
<b>Environmental hazard</b>	No relevant data				
<b>Transport hazard class(es)</b>	<table> <tr> <td>Class</td><td>3</td></tr> <tr> <td>Subrisk</td><td>Not Applicable</td></tr> </table>	Class	3	Subrisk	Not Applicable
Class	3				
Subrisk	Not Applicable				
<b>Special precautions for user</b>	<table> <tr> <td>Special provisions</td><td>163;367</td></tr> <tr> <td>Limited quantity</td><td>5 L</td></tr> </table>	Special provisions	163;367	Limited quantity	5 L
Special provisions	163;367				
Limited quantity	5 L				

**Air transport (ICAO-IATA / DGR)**

<b>UN number</b>	1263						
<b>Packing group</b>	II						
<b>UN proper shipping name</b>	Paint (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base); Paint related material (including paint thinning or reducing compounds)						
<b>Environmental hazard</b>	No relevant data						
<b>Transport hazard class(es)</b>	<table> <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>3L</td></tr> </table>	ICAO/IATA Class	3	ICAO / IATA Subrisk	Not Applicable	ERG Code	3L
ICAO/IATA Class	3						
ICAO / IATA Subrisk	Not Applicable						
ERG Code	3L						
<b>Special precautions for user</b>	<table> <tr> <td>Special provisions</td><td>A3 A72 A192</td></tr> <tr> <td>Cargo Only Packing Instructions</td><td>364</td></tr> <tr> <td>Cargo Only Maximum Qty / Pack</td><td>60 L</td></tr> </table>	Special provisions	A3 A72 A192	Cargo Only Packing Instructions	364	Cargo Only Maximum Qty / Pack	60 L
Special provisions	A3 A72 A192						
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>	1263						
<b>Packing group</b>	II						
<b>UN proper shipping name</b>	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)						
<b>Environmental hazard</b>	Not Applicable						
<b>Transport hazard class(es)</b>	<table> <tr> <td>IMDG Class</td><td>3</td></tr> <tr> <td>IMDG Subrisk</td><td>Not Applicable</td></tr> </table>	IMDG Class	3	IMDG Subrisk	Not Applicable		
IMDG Class	3						
IMDG Subrisk	Not Applicable						
<b>Special precautions for user</b>	<table> <tr> <td>EMS Number</td><td>F-E , S-E</td></tr> <tr> <td>Special provisions</td><td>163</td></tr> <tr> <td>Limited Quantities</td><td>5 L</td></tr> </table>	EMS Number	F-E , S-E	Special provisions	163	Limited Quantities	5 L
EMS Number	F-E , S-E						
Special provisions	163						
Limited Quantities	5 L						

**Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code**

Source	Ingredient	Pollution Category
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	n-butyl acetate	Y
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	methyl ethyl ketone	Z
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	isobutanol	Z
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	xylene	Y
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	amyl methyl ketone	Z
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	methyl isobutyl ketone	Z
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	di-sec-octyl phthalate	X

**SECTION 15 REGULATORY INFORMATION****Safety, health and environmental regulations / legislation specific for the substance or mixture**

This substance is to be managed using the conditions specified in an applicable Group Standard

HSR Number	Group Standard
HSR002596	Laboratory Chemicals and Reagent Kits Group Standard 2006
HSR002584	Fuel Additives (Flammable, Toxic [6.7]) Group Standard 2006
HSR002589	Industrial and Institutional Cleaning Products (Flammable, Toxic [6.7]) Group Standard 2006
HSR002622	N.O.S. (Flammable, Toxic [6.1, 6.7]) Group Standard 2006
HSR002669	Surface Coatings and Colourants (Flammable, Toxic [6.7]) Group Standard 2006
HSR002643	Polymers (Flammable, Toxic [6.7]) Group Standard 2006
HSR002502	Additives, Process Chemicals and Raw Materials (Flammable, Toxic [6.7]) Group Standard 2006
HSR002563	Embalming Products (Flammable) Group Standard 2006
HSR100425	Pharmaceutical Active Ingredients Group Standard 2010
HSR002604	Lubricants (Flammable, Toxic [6.7]) Group Standard 2006
HSR002652	Solvents (Flammable, Toxic [6.7]) Group Standard 2006
HSR100757	Veterinary Medicine (Limited Pack Size, Finished Dose) Standard 2012
HSR100758	Veterinary Medicines (Non-dispersive Closed System Application) Group Standard 2012
HSR100759	Veterinary Medicines (Non-dispersive Open System Application) Group Standard 2012

<b>n-butyl acetate(123-86-4) is found on the following regulatory lists</b>	"New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals"
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<b>methyl ethyl ketone(78-93-3) is found on the following regulatory lists</b>	"New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals"
<b>isobutanol(78-83-1) is found on the following regulatory lists</b>	"New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals"
<b>ethanol(64-17-5) is found on the following regulatory lists</b>	"New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals"
<b>n-butanol(71-36-3) is found on the following regulatory lists</b>	"New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals"
<b>xylene(1330-20-7) is found on the following regulatory lists</b>	"New Zealand Inventory of Chemicals (NZIoC)", "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals"
<b>amyl methyl ketone(110-43-0) is found on the following regulatory lists</b>	"New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals"
<b>methyl isobutyl ketone(108-10-1) is found on the following regulatory lists</b>	"New Zealand Inventory of Chemicals (NZIoC)", "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals"
<b>alpha-amylcinnamic alcohol(101-85-9) is found on the following regulatory lists</b>	"New Zealand Inventory of Chemicals (NZIoC)"
<b>di-sec-octyl phthalate(117-81-7) is found on the following regulatory lists</b>	"New Zealand Inventory of Chemicals (NZIoC)", "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals"

## ECHA SUMMARY

Ingredient	CAS number	Index No	ECHA Dossier
n-butyl acetate	123-86-4	607-025-00-1	01-2119485493-29-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 3, STOT SE 3	GHS07, GHS02, Wng	H226, H336
2	STOT SE 3, Aquatic Chronic 1, Flam. Liq. 2, Skin Irrit. 2, Eye Irrit. 2, Acute Tox. 2	Wng, GHS01, Dgr, GHS06	H336, H319, H225, H315, H330, H335, H317

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
methyl ethyl ketone	78-93-3	606-002-00-3	01-2119457290-43-XXXX, 01-2119943742-35-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3	GHS07, GHS02, Dgr	H225, H319, H336
2	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3, Skin Irrit. 2, Eye Irrit. 2A	Dgr, Wng, GHS01, GHS08	H225, H319, H371, H312, H302, H341, H361, H314

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
isobutanol	78-83-1	603-108-00-1	01-2119484609-23-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 3, Skin Irrit. 2, Eye Dam. 1, STOT SE 3	GHS02, GHS05, Dgr	H335, H226, H315, H318, H336
2	Flam. Liq. 3, Skin Irrit. 2, Eye Dam. 1, STOT SE 3, Acute Tox. 4	GHS02, GHS05, Dgr, GHS08	H226, H315, H318, H370, H332

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
ethanol	64-17-5	603-002-00-5	01-2119457610-43-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 2	GHS02, Dgr	H225
2	Flam. Liq. 2, Eye Irrit. 2, STOT RE 1, Muta. 1B, Repr. 1A, Acute Tox. 3, STOT SE 1, Met. Corr. 1, Skin Corr. 1B, Aquatic Acute 1, Aquatic Chronic 1	Dgr, GHS01, GHS08, Wng, GHS06, GHS05	H225, H319, H340, H304, H372, H315, H220, H360, H301, H311, H331, H370
1	Carc. 2	GHS08, Wng	H351

Continued...

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2	Carc. 2	GHS08, Wng	H351
Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.			
Ingredient	CAS number	Index No	ECHA Dossier
n-butanol	71-36-3	603-004-00-6	01-2119484630-38-XXXX
Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 3, Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, STOT SE 3	GHS02, GHS05, Dgr	H226, H302, H315, H318, H335, H336
2	Flam. Liq. 3, Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, STOT SE 3, Acute Tox. 3, Asp. Tox. 1, STOT RE 1	GHS02, GHS05, Dgr, GHS08, GHS06	H315, H318, H370, H301, H332, H225, H304, H372
Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.			
Ingredient	CAS number	Index No	ECHA Dossier
xylene	1330-20-7	601-022-00-9	01-2119488216-32-XXXX
Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 3, Acute Tox. 4, Skin Irrit. 2	GHS07, GHS02, Wng	H226, H312, H315, H332
2	Acute Tox. 4, Skin Irrit. 2, Asp. Tox. 1, Eye Irrit. 2, Acute Tox. 3, Aquatic Chronic 2, Repr. 1B, STOT SE 1, STOT RE 1, Flam. Liq. 2	Wng, GHS08, Dgr, GHS01, GHS09	H312, H315, H332, H304, H411, H360, H370, H372, H225, H318
1	Flam. Liq. 3, Acute Tox. 4, Skin Irrit. 2	GHS07, GHS02, Wng	H226, H312, H315, H332
2	Flam. Liq. 3, Acute Tox. 4, Skin Irrit. 2	GHS07, GHS02, Wng	H226, H312, H315, H332
Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.			
Ingredient	CAS number	Index No	ECHA Dossier
amyl methyl ketone	110-43-0	606-024-00-3	01-2119902391-49-XXXX
Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 3, Acute Tox. 4	GHS07, GHS02, Wng	H226, H302, H332
2	Flam. Liq. 3, Acute Tox. 4, STOT SE 3	GHS07, Wng, GHS01	H226, H302, H332, H336
Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.			
Ingredient	CAS number	Index No	ECHA Dossier
methyl isobutyl ketone	108-10-1	606-004-00-4	01-2119473980-30-XXXX
Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 2, Eye Irrit. 2, Acute Tox. 4, STOT SE 3	GHS07, GHS02, Dgr	H225, H319, H332, H335
2	Flam. Liq. 2, Eye Irrit. 2, Acute Tox. 4, STOT SE 3, Acute Tox. 3, Asp. Tox. 1, Eye Irrit. 2A	GHS02, Dgr, GHS06, GHS08, Wng	H225, H319, H331, H370
Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.			
Ingredient	CAS number	Index No	ECHA Dossier
alpha-amylcinnamic alcohol	101-85-9	Not Available	Not Available
Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Skin Irrit. 2, Skin Sens. 1, Eye Irrit. 2	GHS07, Wng	H315, H317, H319
2	Skin Irrit. 2, Skin Sens. 1, Eye Irrit. 2, Skin Sens. 1B	GHS07, Wng	H315, H317, H319
Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.			
Ingredient	CAS number	Index No	ECHA Dossier
di-sec-octyl phthalate	117-81-7	607-317-00-9	01-2119484611-38-XXXX, 01-0000012018-79-XXXX
Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Repr. 1B	GHS08, Dgr	H360
2	Repr. 1B, Lact., Aquatic Acute 1, Aquatic Chronic 1, Eye Irrit. 2, Repr. 1A, Carc. 2	GHS08, Dgr, GHS09	H360, H362, H410, H319, H400
Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.			

## Location Test Certificate

Subject to Regulation 55 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations, a location test certificate is required when quantity greater than or equal to those indicated below are present.

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Hazard Class	Quantity beyond which controls apply for closed containers	Quantity beyond which controls apply when use occurring in open containers
3.1B	100 L in containers greater than 5 L 250 L in containers up to and including 5 L	50 L 50 L

**Approved Handler**

Subject to Regulation 56 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations and Regulation 9 of the Hazardous Substances (Classes 6, 8, and 9 Controls) Regulations, the substance must be under the personal control of an Approved Handler when present in a quantity greater than or equal to those indicated below.

Class of substance	Quantities
3.1B	250 L (when in containers greater than 5 L) 500 L (when in containers up to and including 5 L)

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

**SECTION 16 OTHER INFORMATION****Other information**

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 (M)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.

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