

# DUBL-CHEK CP-2

## Callington Haven

Chemwatch: 5147-42

Version No: 2.1.1.1

Material Safety Data Sheet according to NOHSC and ADG requirements

Chemwatch Hazard Alert Code: 3

Issue Date: 24/07/2014

Print Date: 25/07/2014

Initial Date: **Not Available**  
S.Local.AUS.EN

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

### Product Identifier

Product name	DUBL-CHEK CP-2
Chemical Name	Not Applicable
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) (see 3.2.5 for relevant [AUST.] entries)
Chemical formula	Not Applicable
Other means of identification	Not Available
CAS number	Not Applicable

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

Relevant identified uses	Paint.
--------------------------	--------

### Details of the manufacturer/importer

Registered company name	Callington Haven
Address	30 South Street Rydalmere 2116 NSW Australia
Telephone	+61 2 9898 2788
Fax	+61 2 9684 4215
Website	www.callingtonhaven.com
Email	sales@calhaven.com.au

### Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	1800 039 008 (24 hours),+61 3 9573 3112 (24 hours)
Other emergency telephone numbers	1800 039 008 (24 hours),+61 3 9573 3112 (24 hours)

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

**HAZARDOUS SUBSTANCE. DANGEROUS GOODS.** According to the Criteria of NOHSC, and the ADG Code.

### CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	3	
Toxicity	0	
Body Contact	2	
Reactivity	1	
Chronic	0	

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

### Label elements



Relevant risk statements are found in section 2

Poisons Schedule	S5
Risk Phrases [1]	<b>R67</b> Vapours may cause drowsiness and dizziness. <b>R66</b> Repeated exposure may cause skin dryness and cracking. <b>R36</b> Irritating to eyes.

DUBL-CHEK CP-2

**R11** Highly flammable.

**Legend:** 1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

**Indication(s) of danger** F, Xi

**SAFETY ADVICE**

<b>S09</b>	Keep container in a well ventilated place.
<b>S16</b>	Keep away from sources of ignition. No smoking.
<b>S23</b>	Do not breathe gas/fumes/vapour/spray.
<b>S24</b>	Avoid contact with skin.
<b>S25</b>	Avoid contact with eyes.
<b>S26</b>	In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
<b>S29</b>	Do not empty into drains.
<b>S33</b>	Take precautionary measures against static discharges.
<b>S39</b>	Wear eye/face protection.
<b>S40</b>	To clean the floor and all objects contaminated by this material, use water and detergent.
<b>S41</b>	In case of fire and/or explosion, DO NOT BREATHE FUMES.
<b>S43</b>	In case of fire use...
<b>S46</b>	If swallowed, seek medical advice immediately and show this container or label.
<b>S51</b>	Use only in well ventilated areas.
<b>S56</b>	Dispose of this material and its container at hazardous or special waste collection point.
<b>S64</b>	If swallowed, rinse mouth with water (only if the person is conscious).

**Other hazards**

May produce skin discomfort\*.

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**

**Substances**

See section below for composition of Mixtures

**Mixtures**

CAS No	%[weight]	Name
67-64-1	30-60	<a href="#">acetone</a>
Not Available	30-60	ingredients determined to be non hazardous

**SECTION 4 FIRST AID MEASURES**

**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>▶ Wash out immediately with fresh 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>▶ Seek medical attention without delay; if pain persists or recurs 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 or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prosthesis 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.</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**

For acute or short term repeated exposures to acetone:

- ▶ Symptoms of acetone exposure approximate ethanol intoxication.
- ▶ About 20% is expired by the lungs and the rest is metabolised. Alveolar air half-life is about 4 hours following two hour inhalation at levels near the Exposure Standard; in overdose, saturable metabolism and limited clearance, prolong the elimination half-life to 25-30 hours.
- ▶ There are no known antidotes and treatment should involve the usual methods of decontamination followed by supportive care.  
[Ellenhorn and Barceloux: Medical Toxicology]

**Management:**

Measurement of serum and urine acetone concentrations may be useful to monitor the severity of ingestion or inhalation.

**Inhalation Management:**

- ▶ Maintain a clear airway, give humidified oxygen and ventilate if necessary.
- ▶ If respiratory irritation occurs, assess respiratory function and, if necessary, perform chest X-rays to check for chemical pneumonitis.
- ▶ Consider the use of steroids to reduce the inflammatory response.
- ▶ Treat pulmonary oedema with PEEP or CPAP ventilation.

**Dermal Management:**

- ▶ Remove any remaining contaminated clothing, place in double sealed, clear bags, label and store in secure area away from patients and staff.
- ▶ Irrigate with copious amounts of water.
- ▶ An emollient may be required.

**Eye Management:**

- ▶ Irrigate thoroughly with running water or saline for 15 minutes.
- ▶ Stain with fluorescein and refer to an ophthalmologist if there is any uptake of the stain.

**Oral Management:**

- ▶ **No GASTRIC LAVAGE OR EMETIC**
- ▶ Encourage oral fluids.

**Systemic Management:**

- ▶ Monitor blood glucose and arterial pH.
- ▶ Ventilate if respiratory depression occurs.
- ▶ If patient unconscious, monitor renal function.
- ▶ Symptomatic and supportive care.

The Chemical Incident Management Handbook:

Guy's and St. Thomas' Hospital Trust, 2000

**BIOLOGICAL EXPOSURE INDEX**

These represent the determinants observed in specimens collected from a healthy worker exposed at the Exposure Standard (ES or TLV):

Determinant	Sampling Time	Index	Comments
Acetone in urine	End of shift	50 mg/L	NS

NS: Non-specific determinant; also observed after exposure to other material

**SECTION 5 FIREFIGHTING MEASURES****Extinguishing media**

- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.
- ▶ Water spray or fog - Large fires only.

**Special hazards arising from the substrate or mixture****Fire Incompatibility**

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

**Advice for firefighters****Fire Fighting**

- ▶ Alert Fire Brigade and tell them location and nature of hazard.
- ▶ May be violently or explosively reactive.
- ▶ Wear breathing apparatus plus protective gloves in the event of a fire.
- ▶ Prevent, by any means available, spillage from entering drains or water course.
- ▶ Consider evacuation (or protect in place).
- ▶ Fight fire from a safe distance, with adequate cover.
- ▶ If safe, switch off electrical equipment until vapour fire hazard removed.
- ▶ 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>), 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.

	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ Consider evacuation (or protect in place).</li> <li>▶ No smoking, naked lights or ignition sources.</li> <li>▶ Increase ventilation.</li> <li>▶ Stop leak if safe to do so.</li> <li>▶ Water spray or fog may be used to disperse /absorb vapour.</li> <li>▶ Contain spill with sand, earth or vermiculite.</li> <li>▶ Use only spark-free shovels and explosion proof equipment.</li> <li>▶ Collect recoverable product into labelled containers for recycling.</li> <li>▶ Absorb remaining product with sand, earth or vermiculite.</li> <li>▶ Collect solid residues and seal in labelled drums for disposal.</li> <li>▶ Wash area and prevent runoff into drains.</li> <li>▶ If contamination of drains or waterways occurs, advise emergency services.</li> </ul>

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

## SECTION 7 HANDLING AND STORAGE

### Precautions for safe handling

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ <b>DO NOT allow clothing wet with material to stay in contact with skin</b></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 MSDS.</li> <li>▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.</li> </ul>
<b>Other information</b>	<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

<b>Suitable container</b>	<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> </ul>
<b>Storage incompatibility</b>	Avoid storage with oxidisers

### 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
Australia Exposure Standards	acetone	Acetone	1185 mg/m <sup>3</sup> / 500 ppm	2375 mg/m <sup>3</sup> / 1000 ppm	Not Available	Not Available

#### EMERGENCY LIMITS

Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
acetone	200 ppm	200 ppm	3200 ppm	5700 ppm

Ingredient	Original IDLH	Revised IDLH
acetone	20,000 ppm	2,500 [LEL] ppm
ingredients determined to be non hazardous	Not Available	Not Available

## Exposure controls

<p><b>Appropriate engineering controls</b></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. 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 border="1" data-bbox="448 801 1513 1081"> <thead> <tr> <th>Type of Contaminant:</th> <th>Air Speed:</th> </tr> </thead> <tbody> <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> <tr> <td>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)</td> <td>0.5-1 m/s (100-200 f/min.)</td> </tr> <tr> <td>direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)</td> <td>1-2.5 m/s (200-500 f/min.)</td> </tr> </tbody> </table> <p>Within each range the appropriate value depends on:</p> <table border="1" data-bbox="448 1137 1513 1312"> <thead> <tr> <th>Lower end of the range</th> <th>Upper end of the range</th> </tr> </thead> <tbody> <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> </tbody> </table> <p>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.</p>	Type of Contaminant:	Air Speed:	solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min.)	aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)	direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)	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
Type of Contaminant:	Air Speed:																		
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min.)																		
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)																		
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)																		
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																		
<p><b>Personal protection</b></p>																			
<p><b>Eye and face protection</b></p>	<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>																		
<p><b>Skin protection</b></p>	<p>See Hand protection below</p>																		
<p><b>Hands/feet protection</b></p>	<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>Body protection</b></p>	<p>See Other protection below</p>																		
<p><b>Other protection</b></p>	<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> <p>Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity. For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets). Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a</p>																		

	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.
<b>Thermal hazards</b>	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:

DUBL-CHEK CP-2

Material	CPI
BUTYL	A
BUTYL/NEOPRENE	A
PE/EVAL/PE	A
PVDC/PE/PVDC	A
SARANEX-23 2-PLY	B
TEFLON	B
CPE	C
HYPALON	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NITRILE	C
NITRILE+PVC	C
PVA	C
PVC	C
SARANEX-23	C
VITON/NEOPRENE	C

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

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

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

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

**Respiratory protection**

Type AX 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 5 x ES	Air-line*	AX-2	AX-PAPR-2 ^
up to 10 x ES	-	AX-3	-
10+ x ES	-	Air-line**	-

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

^ - Full-face

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

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

<b>Appearance</b>	Highly flammable white liquid with sweet solvent odour; partly mixes with water.		
<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	Not Available
<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>	56 initial	<b>Molecular weight (g/mol)</b>	Not Applicable
<b>Flash point (°C)</b>	-17 (acetone)	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Flammable.	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	12.8 acetone	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	2.6 acetone	<b>Volatile Component (%vol)</b>	Not Available
<b>Vapour pressure (kPa)</b>	24 @ 20C	<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>	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>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 If exposure to highly concentrated solvent atmosphere is prolonged this may lead to narcosis, unconsciousness, even coma and possible death.</p> <p>Systemic effects of acetone inhalation exposure include central nervous system depression, light-headedness, incoherent speech, ataxia, stupor, hypotension, tachycardia, metabolic acidosis, hyperglycaemia and ketosis. Rarely, convulsions and tubular necrosis may be evident. Other symptoms of exposure may include restlessness, headache, vomiting, low blood-pressure and rapid and irregular pulse, eye and throat irritation, weakness of the legs and dizziness. Inhalation of high concentrations may produce dryness of the mouth and throat, nausea, uncoordinated movement, loss of coordinated speech, drowsiness and, in severe cases, coma. Inhalation of acetone vapours over long periods causes irritation of the respiratory tract, coughing and headache. Rats exposed to 52200 ppm vapour for 1 hour showed clear signs of narcosis; fatalities occurred at 126600 ppm.</p>
<b>Ingestion</b>	<p>Accidental ingestion of the material may be damaging to the health of the individual. Ingestion may result in nausea, abdominal irritation, pain and vomiting</p>
<b>Skin Contact</b>	<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 epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. The material may accentuate any pre-existing dermatitis condition</p>
<b>Eye</b>	<p>Evidence exists, or practical experience predicts, that the material may cause severe eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Eye contact may cause significant inflammation with pain. Corneal injury may occur; permanent impairment of vision may result unless treatment is prompt and adequate. Repeated or prolonged exposure to irritants may cause inflammation characterised by a temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.</p>
<b>Chronic</b>	<p>Workers exposed to 700 ppm acetone for 3 hours/day for 7-15 years showed inflammation of the respiratory tract, stomach and duodenum, attacks of giddiness and loss of strength. Exposure to acetone may enhance liver toxicity of chlorinated solvents.</p>

<b>DUBL-CHEK CP-2</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>acetone</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 20000 mg/kg	Eye (human): 500 ppm - irritant
	Inhalation (rat) LC50: 50100 mg/m <sup>3</sup> /8 hr	Eye (rabbit): 20mg/24hr - moderate
	Oral (rat) LD50: 5800 mg/kg	Eye (rabbit): 3.95 mg - SEVERE
		Skin (rabbit): 500 mg/24hr - mild
		Skin (rabbit): 395mg (open) - mild
	Not Available	Not Available

Not available. Refer to individual constituents.

<b>ACETONE</b>	<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 epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.</p> <p>for acetone: The acute toxicity of acetone is low. Acetone is not a skin irritant or sensitiser but is a defatting agent to the skin. Acetone is an eye irritant. The subchronic toxicity of acetone has been examined in mice and rats that were administered acetone in the drinking water and again in rats treated by oral gavage. Acetone-induced increases in relative kidney weight changes were observed in male and female rats used in the oral 13-week study. Acetone treatment caused increases in the relative liver weight in male and female rats that were not associated with histopathologic effects and the effects may have been associated with microsomal enzyme induction. Haematologic effects consistent with macrocytic anaemia were also noted in male rats along with hyperpigmentation in the spleen. The most notable findings in the mice were increased liver and decreased spleen weights. Overall, the no-observed-effect-levels in the drinking water study were 1% for male rats (900 mg/kg/d) and male mice (2258 mg/kg/d), 2% for female mice (5945 mg/kg/d), and 5% for female rats (3100 mg/kg/d). For developmental effects, a statistically significant reduction in foetal weight, and a slight, but statistically significant increase in the percent incidence of later resorptions were seen in mice at 15,665 mg/m<sup>3</sup> and in rats at 26,100 mg/m<sup>3</sup>. The no-observable-effect level for developmental toxicity was determined to be 5220 mg/m<sup>3</sup> for both rats and mice.</p>
----------------	---

Continued...

Teratogenic effects were not observed in rats and mice tested at 26,110 and 15,665 mg/m<sup>3</sup>, respectively. Lifetime dermal carcinogenicity studies in mice treated with up to 0.2 mL of acetone did not reveal any increase in organ tumor incidence relative to untreated control animals. The scientific literature contains many different studies that have measured either the neurobehavioural performance or neurophysiological response of humans exposed to acetone. Effect levels ranging from about 600 to greater than 2375 mg/m<sup>3</sup> have been reported. Neurobehavioral studies with acetone-exposed employees have recently shown that 8-hr exposures in excess of 2375 mg/m<sup>3</sup> were not associated with any dose-related changes in response time, vigilance, or digit span scores. Clinical case studies, controlled human volunteer studies, animal research, and occupational field evaluations all indicate that the NOAEL for this effect is 2375 mg/m<sup>3</sup> or greater.

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

Not Applicable

## SECTION 12 ECOLOGICAL INFORMATION

### Toxicity

for acetone:

log Kow: -0.24

Half-life (hr) air: 312-1896

Half-life (hr) H<sub>2</sub>O surface water: 20

Henry's atm m<sup>3</sup> /mol: 3.67E-05

BOD 5: 0.31-1.76,46-55%

COD: 1.12-2.07

ThOD: 2.2

BCF: 0.69

#### Environmental fate:

Acetone preferentially locates in the air compartment when released to the environment. A substantial amount of acetone can also be found in water, which is consistent with the high water to air partition coefficient and its small, but detectable, presence in rain water, sea water, and lake water samples. Very little acetone is expected to reside in soil, biota, or suspended solids. This is entirely consistent with the physical and chemical properties of acetone and with measurements showing a low propensity for soil absorption and a high preference for moving through the soil and into the ground water.

In air, acetone is lost by photolysis and reaction with photochemically produced hydroxyl radicals; the estimated half-life of these combined processes is about 22 days. The relatively long half-life allows acetone to be transported long distances from its emission source.

Acetone is highly soluble and slightly persistent in water, with a half-life of about 20 hours; it is minimally toxic to aquatic life.

Acetone released to soil volatilises although some may leach into the ground where it rapidly biodegrades.

Acetone does not concentrate in the food chain.

Acetone meets the OECD definition of readily biodegradable which requires that the biological oxygen demand (BOD) is at least 70% of the theoretical oxygen demand (THOD) within the 28-day test period.

Drinking Water Standard: none available.

Soil Guidelines: none available.

Air Quality Standards: none available.

#### Ecotoxicity:

Testing shows that acetone exhibits a low order of toxicity

Fish LC<sub>50</sub>: brook trout 6070 mg/l; fathead minnow 15000 mg/l

Bird LC<sub>0</sub> (5 day): Japanese quail, ring-neck pheasant 40,000 mg/l

Daphnia magna LC<sub>50</sub> (48 h): 15800 mg/l; NOEC 8500 mg/l

Aquatic invertebrate 2100 - 16700 mg/l

Aquatic plant NOEC: 5400-7500 mg/l

Daphnia magna chronic NOEC 1660 mg/l

Acetone vapors were shown to be relatively toxic to two types insects and their eggs. The time to 50% lethality (LT<sub>50</sub>) was found to be 51.2 hr and 67.9 hr when the flour beetle (*Tribolium confusum*) and the flour moth (*Ephesia kuehniella*) were exposed to an airborne acetone concentration of 61.5 mg/m<sup>3</sup>. The LT<sub>50</sub> values for the eggs were 30-50% lower than for the adult. The direct application of acetone liquid to the body of the insects or surface of the eggs did not, however, cause any mortality.

The ability of acetone to inhibit cell multiplication has been examined in a wide variety of microorganisms. The results have generally indicated mild to minimal toxicity with NOECs greater than 1700 mg/L for exposures lasting from 6 hr to 4 days. Longer exposure periods of 7 to 8 days with bacteria produced mixed results; but overall the data indicate a low degree of toxicity for acetone. The only exception to these findings were the results obtained with the flagellated protozoa (*Entosiphon sulcatum*) which yielded a 3-day NOEC of 28 mg/L.

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

### Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
Not Available	Not Available	Not Available

### Bioaccumulative potential

Ingredient	Bioaccumulation
Not Available	Not Available

### Mobility in soil

Ingredient	Mobility



Not Available

Not Available

### SECTION 13 DISPOSAL CONSIDERATIONS

#### Waste treatment methods

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>▶ Recycle wherever possible or consult manufacturer for recycling options.</li> <li>▶ Consult State Land Waste Management Authority for disposal.</li> <li>▶ Bury residue in an authorised landfill.</li> <li>▶ Recycle containers if possible, or dispose of in an authorised landfill.</li> </ul>
-------------------------------------	--

### SECTION 14 TRANSPORT INFORMATION

#### Labels Required

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

#### Land transport (ADG)

<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) (see 3.2.5 for relevant [AUST.] entries)				
<b>Environmental hazard</b>	No relevant data				
<b>Transport hazard class(es)</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Class</td> <td style="padding-left: 5px;">3</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Subrisk</td> <td style="padding-left: 5px;">Not Applicable</td> </tr> </table>	Class	3	Subrisk	Not Applicable
Class	3				
Subrisk	Not Applicable				
<b>Special precautions for user</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Special provisions</td> <td style="padding-left: 5px;">163 *</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Limited quantity</td> <td style="padding-left: 5px;">5 L</td> </tr> </table>	Special provisions	163 *	Limited quantity	5 L
Special provisions	163 *				
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 style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">ICAO/IATA Class</td> <td style="padding-left: 5px;">3</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">ICAO / IATA Subrisk</td> <td style="padding-left: 5px;">Not Applicable</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">ERG Code</td> <td style="padding-left: 5px;">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 style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Special provisions</td> <td style="padding-left: 5px;">A3A72</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Cargo Only Packing Instructions</td> <td style="padding-left: 5px;">364</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Cargo Only Maximum Qty / Pack</td> <td style="padding-left: 5px;">60 L</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Passenger and Cargo Packing Instructions</td> <td style="padding-left: 5px;">353</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Passenger and Cargo Maximum Qty / Pack</td> <td style="padding-left: 5px;">5 L</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Passenger and Cargo Limited Quantity Packing Instructions</td> <td style="padding-left: 5px;">Y341</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Passenger and Cargo Limited Maximum Qty / Pack</td> <td style="padding-left: 5px;">1 L</td> </tr> </table>	Special provisions	A3A72	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
Special provisions	A3A72														
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>	No relevant data				
<b>Transport hazard class(es)</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">IMDG Class</td> <td style="padding-left: 5px;">3</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">IMDG Subrisk</td> <td style="padding-left: 5px;">Not Applicable</td> </tr> </table>	IMDG Class	3	IMDG Subrisk	Not Applicable
IMDG Class	3				
IMDG Subrisk	Not Applicable				

## Special precautions for user

EMS Number	F-E , S-E
Special provisions	163
Limited Quantities	5 L

## SECTION 15 REGULATORY INFORMATION

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

acetone(67-64-1) is found on the following regulatory lists

"Australia - Victoria Occupational Health and Safety Regulations - Schedule 9: Materials at Major Hazard Facilities (And Their Threshold Quantity) Table 2", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "IOFI Global Reference List of Chemically Defined Substances", "Australia Illicit Drug Reagents/Essential Chemicals - Category III", "International Maritime Dangerous Goods Requirements (IMDG Code)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "Australia Customs (Prohibited Exports) Regulations 1958 - Schedule 9 Precursor substances - Part 2", "United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances - Table II", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "Australia FAISD Handbook - Safety Directions", "Australia Crimes (Traffic in Narcotic Drugs and Psychotropic Substances) Act - Schedule 1 - United Nations Convention Against Illicit Traffic In Narcotic Drugs And Psychotropic Substances - Table II", "Australia Exposure Standards", "Australia FAISD Handbook - First Aid Instructions, Warning Statements, and General Safety Precautions", "FisherTransport Information", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances", "Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes", "United Nations Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "OECD List of High Production Volume (HPV) Chemicals", "Australia Inventory of Chemical Substances (AICS)", "Joint FAO/WHO Expert Committee on Food Additives (JECFA) - Specifications for Flavours", "OSPAR National List of Candidates for Substitution - Norway", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "UNECE - Kiev Protocol on Pollutant Release and Transfer Registers - Annex II", "Australia National Pollutant Inventory", "OECD Existing Chemicals Database", "Sigma-AldrichTransport Information", "Australia High Volume Industrial Chemical List (HVICL)", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "FEMA Generally Recognized as Safe (GRAS) Flavoring Substances 23 - Examples of FEMA GRAS Substances with Non-Flavor Functions", "International Air Transport Association (IATA) Dangerous Goods Regulations", "Australia Hazardous Substances Information System - Consolidated Lists", "International Fragrance Association (IFRA) Survey: Transparency List", "IMO IBC Code Chapter 17: Summary of minimum requirements", "United Nations List of Precursors and Chemicals Frequently used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances Under International Control (Red List) - Table II"

## 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/references](http://www.chemwatch.net/references)

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.

This document is copyright. Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH. TEL (+61 3) 9572 4700.