

UNCONTROLLED

LUSTRESEAL SEALERSTRIP

ChemWatch Material Safety Data Sheet
Issue Date: Fri 26-Sep-2003

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

LUSTRESEAL SEALERSTRIP

SYNONYMS

Cobblestone Paving

PROPER SHIPPING NAME

TOXIC LIQUID, ORGANIC, N.O.S. contains methylene chloride and methanol

PRODUCT USE

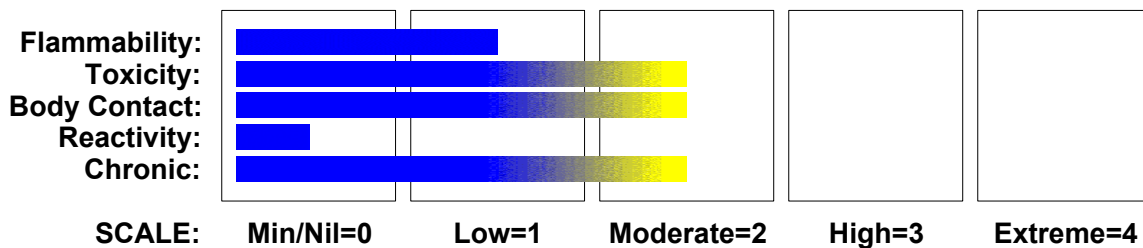
Removal of acrylic sealer from paving.

SUPPLIER

Company: Cobblestone Paving Australia P/L
Address:
PO Box 2057
Burleigh Mdc, Gold Coast
QLD, 4220
AUS

Company: Cobblestone Paving Australia P/L
Address:
45 Alex Fisher Drive
Burleigh Gardens
QLD, 4220
AUS
Telephone: +61 7 5593 7766
Fax: 07 5593 7777

HAZARD RATINGS



Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

According to the Criteria of NOHSC, and the ADG Code.

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Section 2 - HAZARDS IDENTIFICATION ...



POISONS SCHEDULE

S5

RISK

Harmful in contact with skin.

Irritating to skin.

Toxic: Danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

Cumulative effects may result following exposure*.

May produce discomfort of the eyes and respiratory tract*.

May affect fertility*.

Vapours potentially cause drowsiness and dizziness*.

* (limited evidence)

SAFETY

Keep container in a well ventilated place.

Avoid exposure - obtain special instructions before use.

Keep container tightly closed.

Take off immediately all contaminated clothing.

In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.

If you feel unwell contact Doctor or Poisons Information Centre. (Show the label if possible).

In case of accident by inhalation: remove casualty to fresh air and keep at rest.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
methylene chloride	75-09-2	70-90
methanol	67-56-1	10-19
additives, unregulated		1-10

NOTE: Manufacturer has supplied full ingredient information to allow CHEMWATCH assessment.

Section 4 - FIRST AID MEASURES

SWALLOWED

For advice, contact a Poisons Information Centre or a doctor.

- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced

continued...

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Section 4 - FIRST AID MEASURES ...

awareness; i.e. becoming unconsciousness

- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.

- Seek medical advice.

Avoid giving milk or oils.

Avoid giving alcohol.

EYE

If this product comes in contact with the eyes:

- Immediately hold eyelids apart and flush the eye continuously with running water.

- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.

- Transport to hospital or doctor without delay.

- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear

- Flush skin and hair with running water (and soap if available).

- Seek medical attention in event of irritation.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.

- Lay patient down. Keep warm and rested.

- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.

- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

- Transport to hospital, or doctor.

NOTES TO PHYSICIAN

Treat symptomatically.

DO NOT administer sympathomimetic drugs as they may cause ventricular arrhythmias.

For acute or short term repeated exposures to methylene chloride:

- Methylene chloride is well absorbed by the lung. An 8 hour exposure to 250 ppm causes carboxyhaemoglobin levels to exceed 8%. Physical exertion and smoke produce an additive effect.

- The lungs exhale most of the absorbed dose unchanged. Between 1/4 and 1/3 is metabolised to carbon monoxide / dioxide. 5 hours of 100% oxygen is required, typically, to reduce the carboxyhaemoglobin level from 13% to 7.5%.

- As with inhalation and ingestion of the hydrocarbons support of respiration and monitoring for dysrhythmias are the first steps toward stabilisation.

- Small ingestions require only dilution with water or milk. Patients who have ingested more than several swallows may benefit from Ipecac Syrup/lavage, charcoal or cathartics. No data is available to support the efficacy of these treatments.

[Ellenhorn and Barceloux: Medical Toxicology]

BIOLOGICAL EXPOSURE INDEX - BEI

Determinant	Index	Sampling Time	Comments
1. Methaemoglobin in blood	1.5% of haemoglobin	During or end of shift	B, NS, SQ

continued...

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Section 4 - FIRST AID MEASURES ...

B: Background levels occur in specimens collected from subjects NOT exposed.
NS: Non-specific determinant; Also seen after exposure to other materials
SQ: Semi-quantitative determinant - Interpretation may be ambiguous; should be used as a screening test or confirmatory test.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

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

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
 - Wear full body protective clothing with breathing apparatus.
 - Prevent, by any means available, spillage from entering drains or water course.
 - Use water delivered as a fine spray to control fire and cool adjacent area.
 - Avoid spraying water onto liquid pools.
 - DO NOT approach containers suspected to be hot.
 - Cool fire exposed containers with water spray from a protected location.
 - If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD

- Combustible.
 - Slight fire hazard when exposed to heat or flame.
 - Heating may cause expansion or decomposition leading to violent rupture of containers.
 - On combustion, may emit toxic fumes of carbon monoxide (CO).
 - May emit acrid smoke.
 - Mists containing combustible materials may be explosive.
- Other combustion products include carbon monoxide (CO) , hydrogen chloride and phosgene

FIRE INCOMPATIBILITY

Avoid contact with strong acids , strong alkalis and strong oxidisers.
May react violently with aluminium , magnesium , powdered metals and alkali metals e.g. sodium, potassium, lithium

HAZCHEM

2X

Personal Protective Equipment

Glasses:
Safety Glasses.
Chemical goggles.
Full face- shield.

Gloves:
1.PE/EVAL/PE 2.PVA 3.TEFLON

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Section 5 - FIRE FIGHTING MEASURES ...

Respirator:
Type AX Filter of sufficient capacity

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

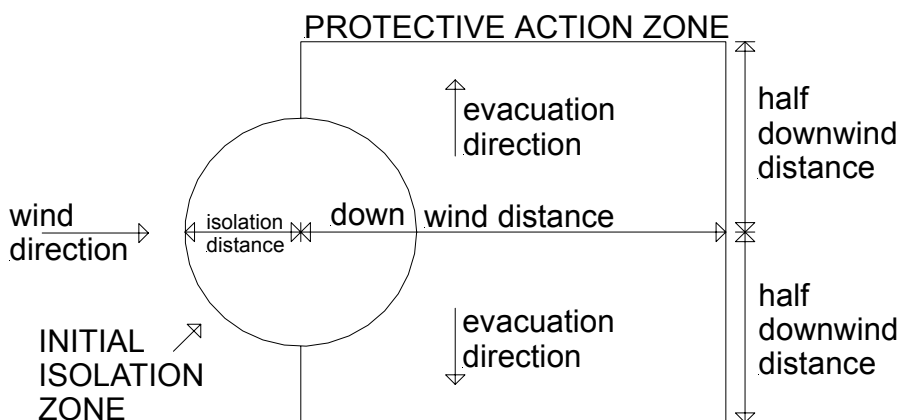
MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.
- Wipe up.
- Place in a suitable labelled container for waste disposal.

MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
 - Wear full body protective clothing with breathing apparatus.
 - Prevent, by any means available, spillage from entering drains or water course.
 - No smoking, naked lights or ignition sources.
 - Increase ventilation.
 - Stop leak if safe to do so.
 - Water spray or fog may be used to disperse / absorb vapour.
 - Contain or absorb spill with sand, earth or vermiculite.
 - Collect recoverable product into labelled containers for recycling.
 - Collect solid residues and seal in labelled drums for disposal.
 - Wash area and prevent runoff into drains.
 - After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
 - If contamination of drains or waterways occurs, advise emergency services.

PROTECTIVE ACTIONS FOR SPILL



From US Emergency Response Guide 2000
Guide 153

SMALL SPILLS

continued...

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Section 6 - ACCIDENTAL RELEASE MEASURES ...

Name	Isolation Distance	Downwind Day	Protection Night
Toxic liquid, organic, n.o.s. (Inhalation Hazard Zone A)	700 ft (215 m)	1.2 mile (1.9 km)	2.7 mile (4.3 km)
Toxic liquid, organic, n.o.s. (Inhalation Hazard Zone B)	200 ft (60 m)	0.2 mile (0.3 km)	0.7 mile (1.1 km)
Toxic liquid, organic, n.o.s. (when Inhalation Hazard is on a package or shipping paper)	700 ft (215 m)	1.2 mile (1.9 km)	2.7 mile (4.3 km)

LARGE SPILLS

Name	Isolation Distance	Downwind Day	Protection Night
Toxic liquid, organic, n.o.s. (Inhalation Hazard Zone A)	3000 ft (915 m)	(7.0+ mile (11.0+ km)	(7.0+ mile (11.0+ km)
Toxic liquid, organic, n.o.s. (Inhalation Hazard Zone B)	600 ft (185 m)	1 mile (1.6 km)	2.5 mile (4 km)
Toxic liquid, organic, n.o.s. (when Inhalation Hazard is on a package or shipping paper)	3000 ft (915 m)	(7.0+ mile (11.0+ km)	(7.0+ mile (11.0+ km)

From IERG (Canada/Australia)

Isolation Distance	25 metres
Downwind Protection Distance	250 metres
IERG Number	36

FOOTNOTES

- 1 PROTECTIVE ACTION ZONE is defined as the area in which people are at risk of harmful exposure. This zone assumes that random changes in wind direction confines the vapour plume to an area within 30 degrees on either side of the predominant wind direction, resulting in a crosswind protective action distance equal to the downwind protective action distance.
- 2 PROTECTIVE ACTIONS should be initiated to the extent possible, beginning with those closest to the spill and working away from the site in the downwind direction. Within the protective action zone a level of vapour concentration may exist resulting in nearly all unprotected persons becoming incapacitated and unable to take protective action and/or incurring serious or irreversible health effects.
- 3 INITIAL ISOLATION ZONE is determined as an area, including upwind of the incident, within which a high probability of localised wind reversal may expose nearly all persons without appropriate protection to life-threatening concentrations of the material.
- 4 SMALL SPILLS involve a leaking package of 200 litres (55 US gallons) or less, such as a drum (jerrican or box with inner containers). Larger packages leaking less than 200 litres and compressed gas leaking from a small cylinder are also considered "small spills".
LARGE SPILLS involve many small leaking packages or a leaking package of greater than 200 litres, such as a cargo tank, portable tank or a "one-tonne" compressed gas cylinder.
- 5 Guide 153 is taken from the US DOT emergency response guide book.
- 6 IERG information is derived from CANUTEC - Transport Canada.

EMERGENCY RESPONSE PLANNING GUIDLINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all

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Section 6 - ACCIDENTAL RELEASE MEASURES ...

individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

Lustre Seal Sealerstrip

SMALL SPILLS

Zone A)

Toxic liquid, organic,

700 ft (215 m)

1.2 mile (1.9 km)

2.7 mile (4.3 km)

n.o.s. (Inhalation Hazard

km)

km)

Zone B)

From U

Name

Toxic li

n.o.s. (

LARGE

Zone A

Toxic li

irreversible or other serious effects or symptoms which could
impair an individual's ability to take protective action is:

Lustre Seal Sealerstrip

SMALL SPILLS

Zone A)

Toxic liquid, organic,

700 ft (215 m)

1.2 mile (1.9 km)

2.7 mile (4.3 km)

n.o.s. (Inhalation Hazard

km)

km)

Zone B)

Guide

Toxic li

n.o.s. (

Hazard

Name

Toxic li

n.o.s. (

other than mild, transient adverse effects
without perceiving a clearly defined odour is:

Lustre Seal Sealerstrip

SMALL SPILLS

Zone A)

Toxic liquid, organic,

700 ft (215 m)

1.2 mile (1.9 km)

2.7 mile (4.3 km)

n.o.s. (Inhalation Hazard

km)

km)

Zone B)

-

n.o.s. (

Zone B

shipping

Toxic li

n.o.s. (

Hazard

American Industrial Hygiene Association (AIHA)

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

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of overexposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- DO NOT allow material to contact humans, exposed food or food utensils.
- Avoid smoking, naked lights or ignition sources.
- When handling, DO NOT eat, drink or smoke.
- Avoid contact with incompatible materials.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Working clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storing/handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

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Section 7 - HANDLING AND STORAGE ...

SUITABLE CONTAINER

- Metal can or drum
 - Packaging as recommended by manufacturer.
 - Check all containers are clearly labelled and free from leaks.
- Dissolves most plastics and synthetic fibres

STORAGE INCOMPATIBILITY

Segregate from strong oxidisers , strong alkalis , aluminium , magnesium , powdered metals and alkali metals e.g. sodium, potassium, lithium
In the presence of moisture and at higher temperatures material breaks down generating hydrochloric acid, which may corrode and perforate containers.

STORAGE REQUIREMENTS

- Store in original containers.
 - Keep containers securely sealed.
 - No smoking, naked lights or ignition sources.
 - Store in a cool, dry, well-ventilated area.
 - Store away from incompatible materials and foodstuff containers.
 - Protect containers against physical damage and check regularly for leaks.
 - Observe manufacturer's storing and handling recommendations.
- DO NOT store in pits, depressions, basements or areas where vapours may be trapped

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

#3300

EXPOSURE STANDARDS FOR MIXTURE

"Worst Case" computer-aided prediction of vapour components/concentrations:

Composite Exposure Standard for Mixture (TWA) (mg/m³): 215.325 mg/m³

If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed.

Component Breathing Zone ppm Breathing Zone mg/m³ Mixture Conc: (%)

Component	Breathing zone (ppm)	Breathing Zone (mg/m ³)	Mixture Conc (%)
methanol		41.3250	19.0
methylene chloride	50.00	174.0000	80.0

Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone.

If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed.

At the "Composite Exposure Standard for Mixture" (TWA) (mg/m³): 80 mg/m³

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

REPRODUCTIVE HEALTH GUIDELINES

Established occupational exposure limits frequently do not take into consideration reproductive end points that are clearly below the thresholds for other toxic effects. Occupational reproductive guidelines (ORGs) have been suggested as an additional standard. These have been established after a literature search for the reproductive no-observed-adverse effect-level (NOAEL) and the lowest-observed-adverse-effect-level (LOAEL). In addition the US EPA's procedures for risk assessment for hazard identification and dose-response assessment as applied by NIOSH were used in the creation of such limits. Uncertainty factors (UFs) have also been incorporated.

Ingredient	ORG	UF	Endpoint	CR	TLV Adeq
methylene chloride	2.4 mg/m ³	100	R	14	-
methanol	262 mg/m ³	NA	NA	NA	Yes

These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits. ORGS represent an 8-hour time-weighted average unless specified otherwise.

CR = Cancer Risk/10000; UF = Uncertainty factor:

TLV believed to be adequate to protect reproductive health:

LOD: Limit of detection

Toxic endpoints have also been identified as:

D = Developmental; R = Reproductive; TC = Transplacental carcinogen

Jankovic J., Drake F.: A Screening Method for Occupational Reproductive

American Industrial Hygiene Association Journal 57: 641-649 (1996)

INGREDIENT DATA

METHYLENE CHLORIDE:

TLV TWA: 50 ppm A3; BEI [ACGIH]

PEL: [OSHA Z2]

TLV TWA: 50 ppm, 174 mg/m³ A3

CAUTION: This substance has been classified by the ACGIH as A3 Animal Carcinogen (at relatively high doses)

ES TWA: 50 ppm, 174 mg/m³ SKIN

CAUTION: This substance is classified by the NOHSC as Category 3 Suspected of having carcinogenic potential

MEL TWA: 100 ppm, 350 mg/m³; STEL: 300 ppm, 1060 mg/m³

Exposure limits with "skin" notation indicate that vapour and liquid may be absorbed through intact skin. Absorption by skin may readily exceed vapour inhalation exposure. Symptoms for skin absorption are the same as for inhalation. Contact with eyes and mucous membranes may also contribute to overall exposure and may also invalidate the exposure standard.

MAK value: 100 ppm, 360 mg/m³

MAK Category II Peak Limitation: For substances with systemic effects and with a half-life in humans ranging from two hours to shift-length.

Allows excursions of 5 times the MAK value, for 30 minutes (on average), twice per shift.

MAK IIIB: Substances suspected of having carcinogenic potential.

MAK Group D: Classification as to the effect of the substance on the developing embryo/foetus is not yet possible because although data may indicate a trend, they are not sufficient for a final evaluation.

MAK values, and categories and groups are those recommended within the Federal Republic of Germany

NIOSH REL: Exposure to the lowest feasible concentration.

Odour Threshold Value: 158 ppm (detection), 227 ppm (recognition)

IDLH Level: 2300 ppm

NOTE: Detector tubes for methylene chloride, measuring in excess of 25 ppm

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

are commercially available. Long-term measurements (4 hrs) may be conducted to detect concentrations exceeding 13 ppm.

Exposure at or below the recommended TLV-TWA (and in the absence of occupational exposure to carbon monoxide) is thought to minimise the potential for liver injury and to provide protection against the possible weak carcinogenic effects which have been demonstrated in laboratory rats and mice. Enhancement of tumours of the lung, liver, salivary glands and mammary tissue in rodent studies has lead NIOSH to recommend a more conservative outcome. The ACGIH however concludes that in the absence of documentation of health-related injuries at higher exposures after a long history of methylene chloride use and a number of epidemiologic studies, the recommended TLV-TWA provides an adequate margin of safety. Concentration effects:

Concentration	Clinical effects
>300 ppm	Sweet odour
500-1000 ppm (1-2 h)	Unpleasant odour, slight anaesthetic effects, headache, light-headedness, eye irritation and elevated COHb concentration
2300 ppm (5 min.)	Odour strong, intensely irritating; dizziness
7200 ppm (8-16 min)	Paraesthesia, tachycardia
>50000 ppm	Immediately life-threatening

METHANOL:

TLV TWA: 200 ppm Skin; BEI [ACGIH]

TLV STEL: 250 ppm Skin; BEI [ACGIH]

PEL TWA: 200 ppm, 260 mg/m³ [OSHA Z1]

TLV TWA: 200 ppm; STEL: 250 ppm SKIN

ES TWA: 200 ppm, 262 mg/m³; STEL: 250 ppm, 328 mg/m³ SKIN

OES TWA: 200 ppm, 266 mg/m³; STEL: 250 ppm, 333 mg/m³ SKIN

MAK value: 200 ppm, 270 mg/m³

Designated H in List of MAK values: Danger of cutaneous absorption.

Absorption of such substances through the skin can pose an incomparably larger danger of toxicity than their inhalation. To avoid health risks when handling such substances, meticulous cleaning of the skin, hair and clothing is imperative.

MAK Category II Peak Limitation: For substances with systemic effects and with a half-life in humans of less than two hours.

Allows excursions of 2 times the MAK value, for 30 minutes (on average), four times per shift.

MAK Group C: There is no reason to fear risk of damage to the developing embryo when MAK and BAT values are observed.

MAK values, and categories and groups are those recommended within the Federal Republic of Germany

Odour Threshold Value: 4.2-5960 ppm (detection), 53.0-8940 ppm (recognition)

IDLH Level: 6000 ppm

NOTE: Detector tubes for methanol, measuring in excess of 50 ppm, are commercially available.

Exposure limits with "skin" notation indicate that vapour and liquid may be absorbed through intact skin. Absorption by skin may readily exceed vapour inhalation exposure. Symptoms for skin absorption are the same as for inhalation. Contact with eyes and mucous membranes may also contribute to overall exposure and may also invalidate the exposure standard.

Exposure at or below the recommended TLV-TWA is thought to substantially reduce the significant risk of headache, blurred vision and other ocular and systemic effects.

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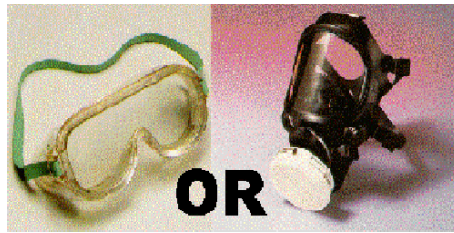
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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

PERSONAL PROTECTION



EYE

- Safety glasses with side shields.
- Chemical goggles.
- Full face shield.
- Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them.

HANDS/FEET

- Barrier cream.
- Wear chemical protective gloves, eg. PVC.
Wear safety footwear.

OTHER

- Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.
- Ensure there is ready access to a safety shower.

ENGINEERING CONTROLS

Use in a well-ventilated area.

General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in special circumstances. If risk of overexposure exists, wear approved respirator. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. Provide adequate ventilation in warehouses and enclosed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant: solvent, vapours, degreasing etc., evaporating from tank (in still air). 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)	Air Speed: 0.25-0.5 m/s (50-100 f/min) 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.)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into	2.5-10 m/s (500-2000 f/min.)

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zone of very high rapid air motion)

Within each range the appropriate value depends on:

Lower end of the range

- 1: Room air currents minimal or favourable to capture
- 2: Contaminants of low toxicity or of nuisance value only.
- 3: Intermittent, low production.
- 4: Large hood or large air mass in motion

Upper end of the range

- 1: Disturbing room air currents
- 2: Contaminants of high toxicity
- 3: High production, heavy use
- 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.

In confined spaces where there is inadequate ventilation, wear full-face air supplied breathing apparatus

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Hazy coloured, combustible liquid, with an ether-like odour; does not mix with water

PHYSICAL PROPERTIES

Liquid.

Does not mix with water.

Sinks in water.

Molecular Weight: Not applicable

Melting Range (°C): Not available

Solubility in water (g/L): Immiscible

pH (1% solution): Not available

Volatile Component (%vol): Not available

Relative Vapour Density (air=1): >1

Lower Explosive Limit (%): Not available

Autoignition Temp (°C): Not available

State: Liquid

Boiling Range (°C): Not available

Specific Gravity (water=1): >1

pH (as supplied): Not available

Vapour Pressure (kPa): Not available

Evaporation Rate: Not available

Flash Point (°C): >61

Upper Explosive Limit (%): Not available

Decomposition Temp (°C): Not available

log Kow (Prager 1995): 1.25

log Kow : 1.25

log Kow : -0.82- -0.66

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Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

The liquid is highly discomforting and is harmful if swallowed. Ingestion may result in nausea, abdominal irritation, pain and vomiting. Methanol may produce a burning or painful sensation in the mouth, throat, chest and stomach. This may be accompanied by nausea, vomiting, headache, dizziness, shortness of breath, weakness, fatigue, leg cramps, restlessness, confusion, drunken behaviour, visual disturbance, drowsiness, coma and death. Onset of symptoms may be delayed for several hours. Effects are due partly to acidosis and partly to cerebral oedema. Visual impairment produces blurring, double vision (diplopia), changes in colour perception, restriction of visual fields and blindness. 60-200 ml of methanol is a fatal dose for most adults with as little as 10 ml producing blindness. In massive overdose, liver, kidney, heart and muscle injury have been described.

EYE

The liquid is highly discomforting to the eyes and is capable of causing pain and severe conjunctivitis. Corneal injury may develop, with possible permanent impairment of vision, if not promptly and adequately treated. The vapour is discomforting to the eyes. The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

SKIN

The liquid is highly discomforting to the skin and may cause drying of the skin, which may lead to dermatitis. Toxic effects may result from skin absorption. Bare unprotected skin should not be exposed to this material. The material may accentuate any pre-existing skin condition. The material may produce severe 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) thickening of the epidermis.

Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. Prolonged contact is unlikely, given the severity of response, but repeated exposures may produce severe ulceration.

INHALED

The vapour is highly discomforting to the upper respiratory tract and is harmful if inhaled. Inhalation hazard is increased at higher temperatures. Acute effects from inhalation of high vapour concentrations may be chest and nasal irritation with coughing, sneezing, headache and even nausea. Inhalation exposure may cause susceptible individuals to show change in heart

continued...

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Section 11 - TOXICOLOGICAL INFORMATION ...

beat rhythm i.e. cardiac arrhythmia. Exposures must be terminated. Acute intoxication by halogenated aliphatic hydrocarbons appears to take place over two stages. Signs of a reversible narcosis are evident in the first stage and in the second stage signs of injury to organs may become evident, a single organ alone is (almost) never involved. Depression of the central nervous system is the most outstanding effect of most halogenated aliphatic hydrocarbons. Inebriation and excitation, passing into narcosis, is a typical reaction. In severe acute exposures there is always a danger of death from respiratory failure or cardiac arrest due to a tendency to make the heart more susceptible to catecholamines (adrenalin)

CHRONIC HEALTH EFFECTS

Principal routes of exposure are usually by skin contact/absorption and inhalation of vapour. Methylene chloride is stored in body fat and is metabolised to carbon monoxide which increases and sustains carboxyhaemoglobin levels in the blood, reducing its oxygen carrying capacity. Smokers with already high carboxyhaemoglobin levels may show increased effects of exposure. Methylene chloride exposures cause liver and kidney damage in animals and this justifies consideration before exposing persons with a history of impaired liver function and/or renal disorders. Chronic exposure may produce central nervous system damage including confusion, delusions, slurred speech, memory impairment, anxiety, focal seizures, encephalopathy and visual and auditory hallucinations. These effects are probably due to chronic carbon monoxide poisoning resulting from methylene chloride metabolism. Two epidemiological studies of workers exposed to methylene chloride have been published. An excess in pancreatic tumours was noted in one study. Chronic exposure to methylene chloride (approximately 30-120 ppm TWA) did not appear to increase the risk of deaths arising from lung cancer or cardiovascular disease. A study from Zeneca's Central Toxicology Laboratory added further support to the claim that solvent methylene chloride is not a human carcinogen. This study supported a previous finding by the European Centre of Ecology and Toxicology (ECETOC) that methylene chloride induced-cancers, previously identified in mice, were a consequence of a unique metabolic pathway found only in mice. Minor but regular methanol exposures may effect the central nervous system, optic nerves and retinae. Symptoms may be delayed, with headache, fatigue, nausea, blurring of vision and double vision. Continued or severe exposures may cause damage to optic nerves, which may become severe with permanent visual impairment even blindness resulting. **WARNING:** Methanol is only slowly eliminated from the body and should be regarded as a cumulative poison which cannot be made non-harmful [CCINFO]

Lustre Seal Strip

METHYLENE CHLORIDE: TOXICITY

Oral (human) LDLo: 357 mg/kg
Skin (rabbit): 810 mg/24hr-SEVERE
Skin (rabbit): 100mg/24hr-moderate
Eye(rabbit): 162 mg - m
Eye(rabbit): 10 mg - mild
Eye(rabbit): 500 mg/24hr - mild

IRRITATION

moderate

WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.

METHANOL: TOXICITY

Oral (human) LDLo: 143 mg/kg
Oral (man) LDLo: 6422 mg/kg
Oral (man) TDLo: 3429 mg/kg
Oral (rat) LD50: 5628 mg/kg
Inhalation (human) TLo: 86000 mg/m3
Inhalation (human) TLo: 300 ppm
Inhalation (rat) LC50: 64000 ppm/4h

IRRITATION

Skin (rabbit): 20 mg/24 h-moderate
Eye (rabbit): 40 mg-moderate
Eye (rabbit): 100 mg/24h-moderate

continued...

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Dermal (rabbit) LD50: 15800 mg/kg

Section 12 - ECOLOGICAL INFORMATION

No data for Lustre Seal Strip.
Refer to data for ingredients, which follows:

METHYLENE CHLORIDE:

Hazardous Air Pollutant: No

Fish LC50 (96hr.) (mg/l): 147.6-193

Daphnia magna EC50 (48hr.) (mg/l): 224

BCF<100: 5

log Kow (Prager 1995): 1.25

Half-life Soil - High (hours): 672

Half-life Soil - Low (hours): 168

Half-life Air - High (hours): 4584

Half-life Air - Low (hours): 458

Half-life Surface water - High (hours): 672

Half-life Surface water - Low (hours): 168

Half-life Ground water - High (hours): 1344

Half-life Ground water - Low (hours): 336

Aqueous biodegradation - Aerobic - High (hours): 672

Aqueous biodegradation - Aerobic - Low (hours): 168

Aqueous biodegradation - Anaerobic - High (hours): 2688

Aqueous biodegradation - Anaerobic - Low (hours): 672

Aqueous biodegradation - Removal secondary treatment - High (hours): 94.50%

Photolysis maximum light absorption - High (nano-m): 250

Photolysis maximum light absorption - Low (nano-m): 220

Photooxidation half-life air - High (hours): 4584

Photooxidation half-life air - Low (hours): 458

First order hydrolysis half-life (hours): 704 YR

log Kow : 1.25

log Koc : 1.68

log Kom : 1.44

Henry's atm m³ /mol: 2.68E-03

BCF : 5

The UK Department of Environment have established that methylene chloride is not a greenhouse gas and the Organisation for Economic Cooperation and Development (OECD) in a Monograph have affirmed that there was no single international view that risk reduction measures are required for the solvent. The Monograph suggests that alternatives may pose a greater risk to the environment.

In the atmosphere methylene chloride degrades by reaction with photochemically produced hydroxy radicals (half-life 6 months). Methylene chloride rapidly volatilises from water and soil to the atmosphere (estimated half-life for volatilisation from water 3-5.6 hours). In soil methylene chloride may partially leach to ground water. It is not expected to bioaccumulate or bioconcentrate in the food chain.

Drinking Water Standards:

hydrocarbon total: 10 ug/l (UK max)

dichloromethane: 20 ug/l (WHO guideline)

Soil Guidelines: Dutch Criteria: detection threshold (target)
20 mg/kg (intervention)

Air Quality Standards:

3 mg/m³ averaging time 24 hours (WHO guideline)

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Section 12 - ECOLOGICAL INFORMATION ...

METHANOL:

Hazardous Air Pollutant: No

log Kow : -0.82- -0.66

Half-life (hr) air : 427

Half-life (hr) H2O surface water : 5.3-64

Henry's atm m³ /mol: 1.35E-04

BOD 5 if unstated: 0.76-1.12

COD : 1.05-1.50,99%

ThOD : 1.5

BCF : 0.2-10

Toxicity Fish: LC50(96): 11-15mg/L

TLm(48Hr): 8000mg/L (trout))

Toxicity Arthropoda: NOEL 10 g/L/48Hr (Daphnia)) [ICI]

DO NOT discharge into sewer or waterways.

Section 13 - DISPOSAL CONSIDERATIONS

Recycle wherever possible.

Consult manufacturer for recycling options.

Consult State Land Waste Management Authority for disposal.

Reclaim solvent at an approved site.

Evaporate or incinerate residue at an approved site.

Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION



Shipping Name:

TOXIC LIQUID, ORGANIC, N.O.S.

contains methylene chloride and methanol

Dangerous Goods Class: 6.1

UN/NA Number: 2810

ADR Number: 60

Packing Group: III

Labels Required: toxic

Additional Shipping Information:

International Transport Regulations:

IMO: 6.1

HAZCHEM

2X

continued...

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Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

S5

REGULATIONS

No data available for methanol (CAS: 67-56-1).

Section 16 - OTHER INFORMATION

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