

# Dy-Mark Stead Stockmarker Lead Free All Colours

Dy-Mark

Chemwatch: **02-1075** Version No: **13.1.1.1** 

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 4

Issue Date: **01/11/2019** Print Date: **30/03/2020** S.GHS.AUS.EN

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

#### **Product Identifier**

Product name	Dy-Mark Stead Stockmarker Lead Free All Colours	
Synonyms	32SB1702, 32SB1703, 32SB1704, 32SB1706, 32SB1708, 32SB1702, 32SB1705	
Proper shipping name	AEROSOLS	
Other means of identification	Not Available	

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

Relevant identified uses

Use according to manufacturer's directions.

Application is by spray atomisation from a hand held aerosol pack

# Details of the supplier of the safety data sheet

Registered company name	Dy-Mark
Address	89 Formation Street Wacol QLD 4076 Australia
Telephone	+61 7 3327 3004
Fax	+61 7 3327 3009
Website	http://www.dymark.com.au
Email	info@dymark.com.au

#### **Emergency telephone number**

Association / Organisation	Dy-Mark
Emergency telephone numbers	+61 7 3327 3099
Other emergency telephone numbers	Not Available

#### **SECTION 2 HAZARDS IDENTIFICATION**

#### Classification of the substance or mixture

#### HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

#### CHEMWATCH HAZARD RATINGS

	Min	Max	
Flammability	4		
Toxicity	1		0 = Minimum
Body Contact	2		1 = Low 2 = Moderate
Reactivity	1		3 = High
Chronic	3	i	4 = Extreme

Poisons Schedule	Not Applicable
Classification <sup>[1]</sup>	Flammable Aerosols Category 1, Eye Irritation Category 2A, Reproductive Toxicity Category 1B, Specific target organ toxicity - single exposure Category 3 (narcotic effects), Acute Aquatic Hazard Category 3, Chronic Aquatic Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

# Label elements

Hazard pictogram(s)







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SIGNAL WORD	DANGER	
Hazard statement(s)		
H222	Extremely flammable aerosol.	
H319	Causes serious eye irritation.	
H360	May damage fertility or the unborn child.	
H336	May cause drowsiness or dizziness.	
H412	Harmful to aquatic life with long lasting effects.	
AUH044	Risk of explosion if heated under confinement.	
Precautionary statement(s) Prevention		
P201	Obtain special instructions before use.	
P210	Keep away from heat/sparks/open flames/hot surfaces No smoking.	
P211	Do not spray on an open flame or other ignition source.	

P201	Obtain special instructions before use.
P210	Keep away from heat/sparks/open flames/hot surfaces No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Pressurized container: Do not pierce or burn, even after use.
P271	Use only outdoors or in a well-ventilated area.
P281	Use personal protective equipment as required.
P261	Avoid breathing mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

# Precautionary statement(s) Response

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P308+P313	IF exposed or concerned: Get medical advice/attention.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

# Precautionary statement(s) Storage

P405	Store locked up.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

# Precautionary statement(s) Disposal

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

# SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

### Substances

See section below for composition of Mixtures

#### Mixtures

CAS No	%[weight]	Name
64-17-5	20-40	ethanol
67-64-1	10-30	acetone
Not Available	1-10	resin, determined not to be hazardous
107-98-2	<1	propylene glycol monomethyl ether - alpha isomer
84-74-2	<1	dibutyl phthalate
115-10-6	30-60	dimethyl ether

# **SECTION 4 FIRST AID MEASURES**

Description of first aid measures		
Eye Contact	If aerosols come in contact with the eyes:  Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes with fresh running water.  Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.  Transport to hospital or doctor without delay.  Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.	
Skin Contact	If solids or aerosol mists are deposited upon the skin:  Flush skin and hair with running water (and soap if available).  Remove any adhering solids with industrial skin cleansing cream.  DO NOT use solvents.  Seek medical attention in the event of irritation.	

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If aerosols, fumes or combustion products are inhaled: Remove to fresh air 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. Inhalation If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ► Transport to hospital, or doctor. Not considered a normal route of entry. If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of Ingestion

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

Treat symptomatically for lower alkyl ethers: BASIC TREATMENT

- ▶ 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.
- A low-stimulus environment must be maintained.
- Monitor and treat, where necessary, for shock.
- 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.

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.
- Drug therapy should be considered for pulmonary oedema
- Hypotension without signs of hypovolaemia may require vasopressors.
- 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.

- Ethers may produce anion gap acidosis. Hyperventilation and bicarbonate therapy might be indicated
- Haemodialysis might be considered in patients with impaired renal function.
- Consult a toxicologist as necessary.

BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

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 Comments Acetone in urine 50 mg/L NS

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

For acute or short term repeated exposures to ethanol:

- Acute ingestion in non-tolerant patients usually responds to supportive care with special attention to prevention of aspiration, replacement of fluid and correction of nutritional deficiencies (magnesium, thiamine pyridoxine, Vitamins C and K).
- ▶ Give 50% dextrose (50-100 ml) IV to obtunded patients following blood draw for glucose determination.

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- F Comatose patients should be treated with initial attention to airway, breathing, circulation and drugs of immediate importance (glucose, thiamine).
- ▶ Decontamination is probably unnecessary more than 1 hour after a single observed ingestion. Cathartics and charcoal may be given but are probably not effective in single ingestions.
- ▶ Fructose administration is contra-indicated due to side effects.

# **SECTION 5 FIREFIGHTING MEASURES**

#### **Extinguishing media**

#### SMALL FIRE:

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Water spray, dry chemical or CO2

### LARGE FIRE:

▶ Water spray or fog.

# Special hazards arising from the substrate or mixture

Fire Incompatibility Avoid cont

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

Advice for firefighters	
Fire Fighting	<ul> <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>If safe, switch off electrical equipment until vapour fire hazard removed.</li> <li>Use water delivered as a fine spray to control fire and cool adjacent area.</li> <li>DO NOT approach containers suspected to be hot.</li> <li>Cool fire exposed containers with water spray from a protected location.</li> <li>If safe to do so, remove containers from path of fire.</li> <li>Equipment should be thoroughly decontaminated after use.</li> </ul>
Fire/Explosion Hazard	<ul> <li>Liquid and vapour are highly flammable.</li> <li>Severe fire hazard when exposed to heat or flame.</li> <li>Vapour forms an explosive mixture with air.</li> <li>Severe explosion hazard, in the form of vapour, when exposed to flame or spark.</li> <li>Vapour may travel a considerable distance to source of ignition.</li> <li>Heating may cause expansion or decomposition with violent container rupture.</li> <li>Aerosol cans may explode on exposure to naked flames.</li> <li>Rupturing containers may rocket and scatter burning materials.</li> <li>Hazards may not be restricted to pressure effects.</li> <li>May emit acrid, poisonous or corrosive fumes.</li> <li>On combustion, may emit toxic fumes of carbon monoxide (CO).</li> <li>Combustion products include:</li> <li>carbon monoxide (CO)</li> <li>carbon dioxide (CO2)</li> <li>other pyrolysis products typical of burning organic material.</li> <li>Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.</li> </ul>

# **SECTION 6 ACCIDENTAL RELEASE MEASURES**

**HAZCHEM** 

#### Personal precautions, protective equipment and emergency procedures

Not Applicable

See section 8

# **Environmental precautions**

See section 12

### Methods and material for containment and cleaning up

motification and material for conta	
Minor Spills	<ul> <li>Clean up all spills immediately.</li> <li>Avoid breathing vapours and contact with skin and eyes.</li> <li>Wear protective clothing, impervious gloves and safety glasses.</li> <li>Shut off all possible sources of ignition and increase ventilation.</li> <li>Wipe up.</li> <li>If safe, damaged cans should be placed in a container outdoors, away from all ignition sources, until pressure has dissipated.</li> <li>Undamaged cans should be gathered and stowed safely.</li> </ul>
Major Spills	<ul> <li>Remove leaking cylinders to a safe place if possible.</li> <li>Release pressure under safe, controlled conditions by opening the valve.</li> <li>DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve.</li> <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 courses</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>Absorb or cover spill with sand, earth, inert materials or vermiculite.</li> <li>If safe, damaged cans should be placed in a container outdoors, away from ignition sources, until pressure has dissipated.</li> <li>Undamaged cans should be gathered and stowed safely.</li> <li>Collect residues and seal in labelled drums for disposal.</li> <li>After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.</li> </ul>

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

# **SECTION 7 HANDLING AND STORAGE**

Safe handling

#### Precautions for safe handling

- ▶ Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- Avoid smoking, naked lights or ignition sources.
- Avoid contact with incompatible materials.
- When handling, **DO NOT** eat, drink or smoke.
- DO NOT incinerate or puncture aerosol cans.
- DO NOT spray directly on humans, exposed food or food utensils.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately.
- Use good occupational work practice.
- Observe manufacturer's storage and handling recommendations contained within this SDS.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. ▶ Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can
- Store in original containers in approved flammable liquid storage area
- DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
- ▶ No smoking, naked lights, heat or ignition sources
- ► Keep containers securely sealed. Contents under pressure.
- Store away from incompatible materials
- ► Store in a cool, dry, well ventilated area.
- ▶ Avoid storage at temperatures higher than 40 deg C.
- Store in an upright position.
- Protect containers against physical damage.
- ► Check regularly for spills and leaks.
- ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

#### Conditions for safe storage, including any incompatibilities

Suitable container

Other information

- ► Aerosol dispenser.
- Check that containers are clearly labelled.

Storage incompatibility

 $\textcolor{red}{\blacktriangleright} \ \ \, \text{Avoid oxidising agents, acids, acid chlorides, acid anhydrides, chloroformates.}$ 















- Must not be stored together
- May be stored together with specific preventions
- May be stored together

### **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	ethanol	Ethyl alcohol	1000 ppm / 1880 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	acetone	Acetone	500 ppm / 1185 mg/m3	2375 mg/m3 / 1000 ppm	Not Available	Not Available
Australia Exposure Standards	propylene glycol monomethyl ether - alpha isomer	Propylene glycol monomethyl ether	100 ppm / 369 mg/m3	553 mg/m3 / 150 ppm	Not Available	Not Available
Australia Exposure Standards	dibutyl phthalate	Dibutyl phthalate	5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	dimethyl ether	Dimethyl ether	400 ppm / 760 mg/m3	950 mg/m3 / 500 ppm	Not Available	Not Available

### **EMERGENCY LIMITS**

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
ethanol	Ethanol: (Ethyl alcohol)	Not Available	Not Available	15000* ppm
acetone	Acetone	Not Available	Not Available	Not Available
propylene glycol monomethyl ether - alpha isomer	Propylene glycol monomethyl ether; (Ucar Triol HG-170)	100 ppm	160 ppm	660 ppm
dibutyl phthalate	Dibutyl phthalate	15 mg/m3	1,600 mg/m3	9300* mg/m3
dimethyl ether	Methyl ether; (Dimethyl ether)	3,000 ppm	3800* ppm	7200* ppm

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Ingredient	Original IDLH	Revised IDLH
ethanol	3,300 ppm	Not Available
acetone	2,500 ppm	Not Available
propylene glycol monomethyl ether - alpha isomer	Not Available	Not Available
dibutyl phthalate	4,000 mg/m3	Not Available
dimethyl ether	Not Available	Not Available

#### **Exposure controls**

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Employers may need to use multiple types of controls to prevent employee overexposure.

General exhaust is adequate under normal conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection.

Provide adequate ventilation in warehouse or closed 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.

# Appropriate engineering controls

Type of Contaminant:	Speed:
aerosols, (released at low velocity into zone of active generation)	0.5-1 m/s
direct spray, spray painting in shallow booths, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)

Within each range the appropriate value depends on:

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

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

#### Personal protection









# Eye and face protection

► Safety glasses with side shields

Chemical goggles.

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

# Skin protection

See Hand protection below

# Hands/feet protection

- See Hand protection below
- Neoprene glovesNo special equipment needed when handling small quantities.

#### ► OTHERWISE:

- For potentially moderate exposures:
- ► Wear general protective gloves, eg. light weight rubber gloves.
- ► For potentially heavy exposures:
- Wear chemical protective gloves, eg. PVC. and safety footwear.

#### Body protection

See Other protection below

# • The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton.

Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost.

BRETHERICK: Handbook of Reactive Chemical Hazards.

#### Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.

# Other protection

#### For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).

Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot an shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which they are worn. Personnel who have been issued conductive footwear should not wear them from their place of work to their homes and return.

No special equipment needed when handling small quantities.

#### OTHERWISE:

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- Overalls
- Skin cleansing cream.
- ▶ Evewash unit.
- Do not spray on hot surfaces.

# 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	СРІ
BUTYL	A
BUTYL/NEOPRENE	С
CPE	С
HYPALON	С
NATURAL RUBBER	С
NATURAL+NEOPRENE	С
NEOPRENE	С
NEOPRENE/NATURAL	С
NITRILE	С
NITRILE+PVC	С
PE/EVAL/PE	С
PVA	С
PVC	С
PVDC/PE/PVDC	С
SARANEX-23	С
SARANEX-23 2-PLY	С
TEFLON	С
VITON	С
VITON/NEOPRENE	С

<sup>\*</sup> CPI - Chemwatch Performance Index

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 10 x ES	AX-AUS	-	AX-PAPR-AUS / Class 1
up to 50 x ES	-	AX-AUS / Class 1	-
up to 100 x ES	-	AX-2	AX-PAPR-2 ^

#### ^ - 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)

- Positive pressure, full face, air-supplied breathing apparatus should be used for work in enclosed spaces if a leak is suspected or the primary containment is to be opened (e.g. for a cylinder change)
- Air-supplied breathing apparatus is required where release of gas from primary containment is either suspected or demonstrated.

#### **SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

# Information on basic physical and chemical properties

Appearance	Coloured flammable liquid; not miscible with water. Supplied as an aerosol pack. Contents under PRESSURE. Contains highly flammable hydrocarbon propellant.		
Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Applicable

A: Best Selection

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Vapour density (Air = 1) Not Available VOC g/L Not Available

#### **SECTION 10 STABILITY AND REACTIVITY**

Reactivity	See section 7
Chemical stability	<ul> <li>Elevated temperatures.</li> <li>Presence of open flame.</li> <li>Product is considered stable.</li> <li>Hazardous polymerisation will not occur.</li> </ul>
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

#### **SECTION 11 TOXICOLOGICAL INFORMATION**

#### Information on toxicological effects

Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.

Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.

There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.

Inhalation of toxic gases may cause:

- ▶ Central Nervous System effects including depression, headache, confusion, dizziness, stupor, coma and seizures;
- respiratory: acute lung swellings, shortness of breath, wheezing, rapid breathing, other symptoms and respiratory arrest;
- heart: collapse, irregular heartbeats and cardiac arrest;
- Inhaled gastrointestinal: irritation, ulcers, nausea and vomiting (may be bloody), and abdominal pain.

Following inhalation, ethers cause lethargy and stupor. Inhaling lower alkyl ethers results in headache, dizziness, weakness, blurred vision, seizures and possible coma.

Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure.

Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatique and inco-ordination.

If exposure to highly concentrated solvent atmosphere is prolonged this may lead to narcosis, unconsciousness, even coma and possible death.

WARNING: Intentional misuse by concentrating/inhaling contents may be lethal.

Animal testing shows that the most common signs of inhalation overdose is inco-ordination and drowsiness.

# Ingestion

Accidental ingestion of the material may be damaging to the health of the individual.

Not normally a hazard due to physical form of product.

Considered an unlikely route of entry in commercial/industrial environments

Ingestion of alkyl ethers may produce stupor, blurred vision, headache, dizziness and irritation of the nose and throat. Respiratory distress and asphyxia may result.

# Skin Contact

Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.

 $Skin\ contact\ with\ the\ material\ may\ damage\ the\ health\ of\ the\ individual;\ systemic\ effects\ may\ result\ following\ absorption.$ 

Spray mist may produce discomfort

Alkyl ethers may defat and dehydrate the skin producing dermatoses. Absorption may produce headache, dizziness, and central nervous system depression.

Entry into the blood-stream, through, for example, cuts, abrasions 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.

# Eye

Not considered to be a risk because of the extreme volatility of the gas. Eye contact with alkyl ethers (vapour or liquid) may produce irritation, redness and tears.

There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain.

Direct contact of the eye with ethanol (alcohol) may cause an immediate stinging and burning sensation, with reflex closure of the lid, and a temporary, tearing injury to the cornea together with redness of the conjunctiva. Discomfort may last 2 days but usually the injury heals without treatment.

# Chronic

Main route of exposure to the gas in the workplace is by inhalation.

Chronic exposure to alkyl ethers may result in loss of appetite, excessive thirst, fatigue, and weight loss.

Prolonged exposure to ethanol may cause damage to the liver and cause scarring. It may also worsen damage caused by other agents. Workers exposed to acetone for long periods showed inflammation of the airways, stomach and small bowel, attacks of giddiness and loss of strength. Exposure to acetone may enhance the liver toxicity of chlorinated solvents.

Skin: no adverse effect observed (not irritating) $^{[1]}$ 

Dy-Mark Stead Stockmarker Lead Free All Colours	TOXICITY  Not Available	IRRITATION  Not Available
	TOXICITY	IRRITATION
	Inhalation (rat) LC50: 124.7 mg/l/4H <sup>[2]</sup>	Eye (rabbit): 500 mg SEVERE
	Oral (rat) LD50: =1501 mg/kg <sup>[2]</sup>	Eye (rabbit):100mg/24hr-moderate
ethanol		Eye: adverse effect observed (irritating) <sup>[1]</sup>
		Skin (rabbit):20 mg/24hr-moderate
		Skin (rabbit):400 mg (open)-mild

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	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: =20 mg/kg <sup>[2]</sup>	Eye (human): 500 ppm - irritant
	Inhalation (rat) LC50: 100.2 mg/l/8hr <sup>[2]</sup>	Eye (rabbit): 20mg/24hr -moderate
	Oral (rat) LD50: 1800-7300 mg/kg <sup>[2]</sup>	Eye (rabbit): 3.95 mg - SEVERE
acetone		Eye: adverse effect observed (irritating) <sup>[1]</sup>
		Skin (rabbit): 500 mg/24hr - mild
		Skin (rabbit):395mg (open) - mild
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye (rabbit) 230 mg mild
oropylene glycol monomethyl ether - alpha isomer	Inhalation (rat) LC50: 12485.7375 mg/l/5h.d <sup>[2]</sup>	Eye (rabbit) 500 mg/24 h mild
	Oral (rat) LD50: 3739 mg/kg <sup>[2]</sup>	Eye (rabbit): 100 mg SEVERE
		Skin (rabbit) 500 mg open - mild
	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg <sup>[2]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
dibutyl phthalate	Inhalation (mouse) LC50: 12.5 mg/l/2H <sup>[2]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
	Oral (rat) LD50: 100 mg/kg <sup>[1]</sup>	3
	TOVICITY	·
dimethyl ether	Inhalation (rat) LC50: 309 mg/l/4H <sup>[2]</sup>	IRRITATION  Not Available
Legend:	Nalue obtained from Europe ECHA Registered Substance:	s - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise
		tyl ether (PnB); dipropylene glycol n-butyl ether (DPnB); dipropylene glycol methyl
PROPYLENE GLYCOL MONOMETHYL ETHER - ALPHA ISOMER	series. The common toxicities associated with the lower mole reproductive organs, the developing embryo and foetus, bloo In the ethylene series, metabolism of the terminal hydroxyl gr of the lower molecular weight homologues in the ethylene ser Longer chain homologues in the ethylene series are not asso through formation of an alkoxyacetic acid. The predominant a manufacture of PGEs) is a secondary alcohol incapable of for alkoxypropionic acids and these are linked to birth defects (ar isomeric mixture in the commercial product, and therefore PG ethers is propylene glycol, which is of low toxicity and comple As a class, PGEs have low acute toxicity via swallowing, skin animal testing, while the remaining members of this category Animal testing showed that repeat dosing caused few advers reproductive toxicity. Commercially available PGEs have not glycol ethers are unlikely to possess genetic toxicity.  NOTE: For PGE - mixed isomers: Exposure of pregnant rats	In that propylene glycol-based ethers are less toxic than some ethers of the ethyler is cular weight homologues of the ethylene series, such as adverse effects on the dor thymus gland, are not seen with the commercial-grade propylene glycol ethers oup produces and alkoxyacetic acid. The reproductive and developmental toxicitie ries are due specifically to the formation of methoxyacetic and ethoxyacetic acids. Inciated with reproductive toxicity, but can cause haemolysis in sensitive species, all alpha isomer of all the PGEs (which is thermodynamically favoured during rming an alkoxypropionic acid. In contrast, beta-isomers are able to form the not possibly, haemolytic effects). The alpha isomer comprises more than 95% of the SEs show relatively little toxicity. One of the main metabolites of the propylene glyc
	For dibutyl phthalate (DBP):	, , , , , , , , , , , , , , , , , , ,

weight gain, liver enlargement and induction of liver enzymes. They may also cause shrinking of the testicles and other structural malformations.

The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of

They may reduce male and female fertility and number of live births, according to animal testing.

vesicles, scaling and thickening of the skin.

Dy-Mark Stead Stockmarker

Lead Free All Colours & ETHANOL & ACETONE

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Dy-Mark Stead Stockmarker Lead Free All Colours

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 either not available or does not fill the criteria for classification

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– Data available to make classification

#### **SECTION 12 ECOLOGICAL INFORMATION**

#### Toxicity

Dy-Mark Stead Stockmarker	ENDPOINT	TEST DURATION (HR)	SPECIES	1	VALUE	SOURCE
Lead Free All Colours	Not Available	Not Available	Not Available		Not Available	Not Available
	ENDPOINT	TEST DURATION (HR)	SPECIES	VALU	E	SOURCE
	LC50	96	Fish	11-mg	ı/L	2
ethanol	EC50	48	Crustacea	2mg/L	-	4
	EC50	96	Algae or other aquatic plants	17.92	1mg/L	4
	NOEC	2016	Fish	0.000	375mg/L	4
	ENDPOINT	TEST DURATION (HR)	SPECIES	VA	LUE	SOURCE
	LC50	96	Fish	5-5	40mg/L	2
acetone	EC50	48	Crustacea	>10	00mg/L	4
	EC50	96	Algae or other aquatic plants	20.	565mg/L	4
	NOEC	240	Crustacea	1-8	66mg/L	2
	ENDPOINT	TEST DURATION (HR)	SPECIES	·	/ALUE	SOURCE
	LC50	96	Fish	>=1-mg/L		2
propylene glycol monomethyl	EC50	48	Crustacea	>=1-mg/L		2
ether - alpha isomer	EC50	96	Algae or other aquatic plants	>1-mg/L		2
	EC0	48	Crustacea	>=1-mg/L		2
	NOEC	48	Crustacea	>=1-mg/L		2
	ENDPOINT	TEST DURATION (HR)	SPECIES	VA	LUE	SOURCE
	LC50	96	Fish	0.3	5mg/L	4
	EC50	48	Crustacea	>0.003mg/L		2
dibutyl phthalate	EC50	96	Algae or other aquatic plants	0.0034mg/L		4
	BCF	24	Algae or other aquatic plants	10mg/L		4
	EC10	48	Crustacea	>0.003mg/L		2
	NOEC	504	Fish	0.0	25mg/L	4
dimethyl ether	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE		SOURCE
	LC50	96	Fish	1-783	3.04mg/L	2
	EC50	48	Crustacea	>440	0.0mg/L	2
	EC50	96	Algae or other aquatic plants	154.9	17mg/L	2
	NOEC	48	Crustacea	>400	0mg/L	1
Legend:	V3.12 (QSAR) -	Aquatic Toxicity Data (Estimated) 4. U	HA Registered Substances - Ecotoxicological Inform JS EPA, Ecotox database - Aquatic Toxicity Data 5. ( (Japan) - Bioconcentration Data 8. Vendor Data			

 $Harmful\ to\ aquatic\ organisms,\ may\ cause\ long-term\ adverse\ effects\ in\ the\ aquatic\ environment.$ 

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

DO NOT discharge into sewer or waterways.

## Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
ethanol	LOW (Half-life = 2.17 days)	LOW (Half-life = 5.08 days)
acetone	LOW (Half-life = 14 days)	MEDIUM (Half-life = 116.25 days)
propylene glycol monomethyl ether - alpha isomer	LOW (Half-life = 56 days)	LOW (Half-life = 1.7 days)
dibutyl phthalate	LOW (Half-life = 23 days)	LOW (Half-life = 3.08 days)

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LOW LOW dimethyl ether

#### **Bioaccumulative potential**

Ingredient	Bioaccumulation		
ethanol	.OW (LogKOW = -0.31)		
acetone	LOW (BCF = 0.69)		
propylene glycol monomethyl ether - alpha isomer	LOW (BCF = 2)		
dibutyl phthalate	LOW (BCF = 176)		
dimethyl ether	LOW (LogKOW = 0.1)		

#### Mobility in soil

Ingredient	Mobility
ethanol	HIGH (KOC = 1)
acetone	HIGH (KOC = 1.981)
propylene glycol monomethyl ether - alpha isomer	HIGH (KOC = 1)
dibutyl phthalate	LOW (KOC = 1460)
dimethyl ether	HIGH (KOC = 1.292)

# **SECTION 13 DISPOSAL CONSIDERATIONS**

#### Waste treatment methods

Product / Packaging disposal

- ▶ DO NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- ▶ Where in doubt contact the responsible authority.
- ► Consult State Land Waste Management Authority for disposal.
- ▶ Discharge contents of damaged aerosol cans at an approved site.
- ▶ Allow small quantities to evaporate.
- ► DO NOT incinerate or puncture aerosol cans.
- ▶ Bury residues and emptied aerosol cans at an approved site.

# **SECTION 14 TRANSPORT INFORMATION**

#### **Labels Required**



# Land transport (ADG)

UN number	1950		
UN proper shipping name	AEROSOLS		
Transport hazard class(es)	Class 2.1 Subrisk Not Applicable		
Packing group	Not Applicable		
Environmental hazard	Not Applicable		
Special precautions for user	Special provisions   63 190 277 327 344 381		

# Air transport (ICAO-IATA / DGR)

UN number	1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	ICAO/IATA Class 2.1 ICAO / IATA Subrisk Not Applicable ERG Code 10L
Packing group	Not Applicable

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Environmental hazard	Not Applicable	
	Special provisions	A145 A167 A802
	Cargo Only Packing Instructions	203
	Cargo Only Maximum Qty / Pack	150 kg
Special precautions for user	Passenger and Cargo Packing Instructions	203
	Passenger and Cargo Maximum Qty / Pack	75 kg
	Passenger and Cargo Limited Quantity Packing Instructions	Y203
	Passenger and Cargo Limited Maximum Qtv / Pack	30 ka G

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

UN number	1950		
UN proper shipping name	AEROSOLS		
Transport hazard class(es)	IMDG Class 2.1  IMDG Subrisk Not Applicable		
Packing group	Not Applicable		
Environmental hazard	Not Applicable		
Special precautions for user	EMS Number         F-D , S-U           Special provisions         63 190 277 327 344 381 959           Limited Quantities         1000 ml		

#### Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

#### **SECTION 15 REGULATORY INFORMATION**

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

### ETHANOL IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Inventory of Chemical Substances (AICS)

#### ACETONE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals Australia Inventory of Chemical Substances (AICS)

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) -Schedule 5

# PROPYLENE GLYCOL MONOMETHYL ETHER - ALPHA ISOMER IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Inventory of Chemical Substances (AICS)

# DIBUTYL PHTHALATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals Australia Inventory of Chemical Substances (AICS)

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) -Schedule 10 / Appendix C

Chemical Footprint Project - Chemicals of High Concern List

## DIMETHYL ETHER IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals Australia Inventory of Chemical Substances (AICS)

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) -

#### National Inventory Status

National inventory Status	
National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (acetone; propylene glycol monomethyl ether - alpha isomer; dimethyl ether; ethanol; dibutyl phthalate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - ARIPS	Yes

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Legend:

Yes = All CAS declared ingredients are on the inventory

No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

#### **SECTION 16 OTHER INFORMATION**

Revision Date	01/11/2019
Initial Date	14/02/2008

#### **SDS Version Summary**

Version	Issue Date	Sections Updated
12.1.1.1	18/04/2019	Classification, Physical Properties
13.1.1.1	01/11/2019	One-off system update. NOTE: This may or may not change the GHS classification

#### 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.

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

#### **Definitions and abbreviations**

PC-TWA: Permissible Concentration-Time Weighted Average

PC-STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit。

IDLH: Immediately Dangerous to Life or Health Concentrations

OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value
LOD: Limit Of Detection

OTV: Odour Threshold Value BCF: BioConcentration Factors BEI: Biological Exposure Index

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