

DY-MARK STEAD STOCKMARKER LEAD FREE COLOURS AEROSOL

Chemwatch Material Safety Data Sheet

Revision No: 2.0

Hazard Alert Code:
EXTREME

Issue Date: 15-Feb-2008

Chemwatch 02-1075

CD 2008/2

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**PRODUCT NAME:** DY-MARK STEAD STOCKMARKER LEAD FREE COLOURS AEROSOL**PROPER SHIPPING NAME**

AEROSOLS

PRODUCT USE

Used according to manufacturer's directions. Application is by spray atomisation from a hand held aerosol pack.

SUPPLIER

Company: Dy-Mark Pty Ltd

Address:

89 Formation Street

Wacol






QLD, 4076

AUS

Telephone: +61 7 3271 2222

Fax: +61 7 3271 2751

HAZARD RATINGS

		Min	Max	
Flammability:	4			
Toxicity:	2			
Body Contact:	2			
Reactivity:	1			
Chronic:	3			
				Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4

Section 2 - HAZARDS IDENTIFICATION**STATEMENT OF HAZARDOUS NATURE****HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.****POISONS SCHEDULE**

None

RISK

Extremely flammable.

Irritating to eyes.

Risk of explosion if heated under confinement.

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

May cause harm to the unborn child.

Repeated exposure may cause skin dryness and cracking.

Vapours may cause drowsiness and dizziness.

Inhalation skin contact and/or ingestion may produce health damage*.

Cumulative effects may result following exposure*.

May produce discomfort of the respiratory system and skin*.

* (limited evidence).

SAFETY

Keep locked up.

Keep away from sources of ignition. No smoking.

Do not breathe gas/ fumes/ vapour/ spray.

In case of insufficient ventilation wear suitable respiratory equipment.

Use only in well ventilated areas.

Keep container in a well ventilated place.

Avoid exposure - obtain special instructions before use.

To clean the floor and all objects contaminated by this material use water and detergent.

Keep container tightly closed.

This material and its container must be disposed of in a safe way.

Keep away from food drink and animal feeding stuffs.

Take off immediately all contaminated clothing.

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

This material and its container must be disposed of as hazardous waste.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
ethanol	64-17-5	30-60
acetone	67-64-1	10-30
methyl vinyl ether/ maleic acid monobutyl ester copolymer	25119-68-0	<10
propylene glycol monomethyl ether	107-98-2	<1
dibutyl phthalate	84-74-2	<1

DY-MARK STEAD STOCKMARKER LEAD FREE COLOURS AEROSOLHazard Alert Code:
EXTREME

Chemwatch Material Safety Data Sheet

Revision No: 2.0

Chemwatch 02-1075

Issue Date: 15-Feb-2008

CD 2008/2

monoisobutanolamine	124-68-5	<1
dimethyl ether	115-10-6	30-60

Section 4 - FIRST AID MEASURES**SWALLOWED**

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 vomitus.

EYE

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.

SKIN

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.

INHALED

If aerosols, fumes or combustion products are inhaled:

- Remove to fresh air.
- Lay patient down. Keep warm and rested.

NOTES TO PHYSICIANTreat 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:

DY-MARK STEAD STOCKMARKER LEAD FREE COLOURS AEROSOLHazard Alert Code:
EXTREME

Chemwatch Material Safety Data Sheet

Revision No: 2.0

Chemwatch 02-1075

Issue Date: 15-Feb-2008

CD 2008/2

- 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.

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.
- 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 - FIRE FIGHTING MEASURES**EXTINGUISHING MEDIA**

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

DO NOT EXTINGUISH BURNING GAS UNLESS LEAK CAN BE STOPPED SAFELY:

OTHERWISE: LEAVE GAS TO BURN.

FOR SMALL FIRE:

- Dry chemical, CO₂ or water spray to extinguish gas (only if absolutely necessary and safe to do so).
- DO NOT use water jets.

FOR LARGE FIRE:

- Cool cylinder by direct flooding quantities of water onto upper surface until well after fire is out.
- DO NOT direct water at source of leak or venting safety devices as icing may occur.

SMALL FIRE:

- Water spray, dry chemical or CO₂

LARGE FIRE:

- Water spray or fog.

FIRE FIGHTING

FOR FIRES INVOLVING MANY GAS CYLINDERS:

- To stop the flow of gas, specifically trained personnel may inert the atmosphere to reduce oxygen levels thus allowing the capping of leaking container(s).
- Reduce the rate of flow and inject an inert gas, if possible, before completely stopping the flow to prevent flashback.
- DO NOT extinguish the fire until the supply is shut off otherwise an explosive re-ignition may occur.
- If the fire is extinguished and the flow of gas continues, used increased ventilation to prevent build-up, of explosive atmosphere.
- Use non-sparking tools to close container valves.
- Be CAUTIOUS of a Boiling Liquid Evaporating Vapour Explosion, BLEVE, if fire is impinging on surrounding containers.
- Direct 2500 litre/min (500 gpm) water stream onto containers above liquid level with the assistance remote monitors.

DY-MARK STEAD STOCKMARKER LEAD FREE COLOURS AEROSOL

Chemwatch Material Safety Data Sheet

Revision No: 2.0

Hazard Alert Code:
EXTREME

Issue Date: 15-Feb-2008

Chemwatch 02-1075

CD 2008/2

- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- If safe, switch off electrical equipment until vapour fire hazard removed.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- 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

- Liquid and vapour are highly flammable.
 - Severe fire hazard when exposed to heat or flame.
 - Vapour forms an explosive mixture with air.
 - Severe explosion hazard, in the form of vapour, when exposed to flame or spark.
 - Vapour may travel a considerable distance to source of ignition.
 - Heating may cause expansion or decomposition with violent container rupture.
 - Aerosol cans may explode on exposure to naked flames.
 - Rupturing containers may rocket and scatter burning materials.
 - Hazards may not be restricted to pressure effects.
 - May emit acrid, poisonous or corrosive fumes.
 - On combustion, may emit toxic fumes of carbon monoxide (CO).
- Combustion products include: carbon monoxide (CO), carbon dioxide (CO₂), other pyrolysis products typical of burning organic material.
Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.

FIRE INCOMPATIBILITY

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

HAZCHEM

2Y

Personal Protective Equipment

Gas tight chemical resistant suit.

Section 6 - ACCIDENTAL RELEASE MEASURES**EMERGENCY PROCEDURES****MINOR SPILLS**

- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Wear protective clothing, impervious gloves and safety glasses.
- Shut off all possible sources of ignition and increase ventilation.
- Wipe up.
- If safe, damaged cans should be placed in a container outdoors, away from all ignition sources, until pressure has dissipated.
- Undamaged cans should be gathered and stowed safely.

MAJOR SPILLS

- Remove leaking cylinders to a safe place.
- Fit vent pipes. Release pressure under safe, controlled conditions
- Burn issuing gas at vent pipes.
- DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve.
- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water courses
- 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.
- Absorb or cover spill with sand, earth, inert materials or vermiculite.
- If safe, damaged cans should be placed in a container outdoors, away from ignition sources, until pressure has dissipated.
- Undamaged cans should be gathered and stowed safely.
- Collect residues and seal in labelled drums for disposal.
- After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.**Section 7 - HANDLING AND STORAGE**

DY-MARK STEAD STOCKMARKER LEAD FREE COLOURS AEROSOLHazard Alert Code:
EXTREME

Chemwatch Material Safety Data Sheet

Revision No: 2.0

Chemwatch 02-1075

Issue Date: 15-Feb-2008

CD 2008/2

PROCEDURE FOR HANDLING

- Atmospheres must be tested and O.K. before work resumes after leakage.
- Avoid generation of static electricity. Earth all lines and equipment.
- Obtain a work permit before attempting any repairs.
- Do not attempt repair work on lines, vessels under pressure.
- DO NOT transfer gas from one cylinder to another.
- 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 storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

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

STORAGE INCOMPATIBILITY

Acetone reacts violently with bromoform and chloroform in the presence of alkalis or in contact with alkaline surfaces.

- Ethers may react violently with strong oxidising agents and acids.
- The tendency of many ethers to form explosive peroxides is well documented.
- Ethers lacking non-methyl hydrogen atoms adjacent to the ether link are thought to be relatively safe.
- When solvents have been freed from peroxides (by percolation through a column of activated alumina for example), the absorbed peroxides must promptly be desorbed by treatment with the polar solvents methanol or water, which should be discarded safely.
- Avoid strong bases.
- Ketones in this group are reactive with many acids and bases liberating heat and flammable gases (e.g., H₂).
- Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H₂) and heat.
- Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides.
- Ketones react violently with aldehydes, HNO₃ (nitric acid), HNO₃ + H₂O₂ (mixture of nitric acid and hydrogen peroxide), and HClO₄ (perchloric acid).
- Incompatible with aluminium. DO NOT heat above 49 deg. C. in aluminium equipment.
- Avoid oxidising agents, acids, acid chlorides, acid anhydrides, chloroformates.

STORAGE REQUIREMENTS

- 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 storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**EXPOSURE CONTROLS**

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	TWA F/CC
Australia Exposure Standards	ethanol (Ethyl alcohol)	1000	1880					
Australia Exposure Standards	acetone (Acetone)	500	1185	1000	2375			
Australia Exposure Standards	methyl vinyl ether/ maleic acid monobutyl ester copolymer (Inspirable dust (not otherwise classified))		10					
Australia Exposure	propylene glycol monomethyl ether (Propylene glycol							

DY-MARK STEAD STOCKMARKER LEAD FREE COLOURS AEROSOL

Hazard Alert Code:

EXTREME

Chemwatch Material Safety Data Sheet

Revision No: 2.0

Chemwatch 02-1075

Issue Date: 15-Feb-2008

CD 2008/2

Standards	monomethyl ether)	100	369	150	553
Australia Exposure Standards	dibutyl phthalate (Dibutyl phthalate)		5		
Australia Exposure Standards	dimethyl ether (Dimethyl ether)	400	760	500	950

The following materials had no OELs on our records

- monoisobutanolamine: CAS:124-68-5

PERSONAL PROTECTION**RESPIRATOR**

Type KAX-P Filter of sufficient capacity

EYE

- 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 lens 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]

HANDS/FEET

- Neoprene gloves
- No 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.

OTHER

- 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.

BREITHERICK: 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.

No special equipment needed when handling small quantities.

OTHERWISE:

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

ENGINEERING CONTROLS

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.

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

DY-MARK STEAD STOCKMARKER LEAD FREE COLOURS AEROSOLHazard Alert Code:
EXTREME

Chemwatch Material Safety Data Sheet

Revision No: 2.0

Chemwatch 02-1075

Issue Date: 15-Feb-2008

CD 2008/2

- | | |
|--|----------------------------------|
| 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.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**APPEARANCE**

Supplied as an aerosol pack. Contents under PRESSURE. Contains highly flammable hydrocarbon propellant. Coloured flammable liquid; does not mix with water.

PHYSICAL PROPERTIES

Gas.

Does not mix with water.

Molecular Weight: Not Applicable

Melting Range (°C): Not Available

Solubility in water (g/L): Immiscible

pH (1% solution): Not Applicable

Volatile Component (%vol): Not Available

Relative Vapour Density (air=1): Not Available

Lower Explosive Limit (%): Not Available

Autoignition Temp (°C): Not Available

State: COMPRESSED GAS

Boiling Range (°C): Not Available

Specific Gravity (water=1): Not Available

pH (as supplied): Not Applicable

Vapour Pressure (kPa): Not Available

Evaporation Rate: Not Available

Flash Point (°C): Not Available

Upper Explosive Limit (%): Not Available

Decomposition Temp (°C): Not Available

Viscosity: Not Available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION**CONDITIONS CONTRIBUTING TO INSTABILITY**

- Elevated temperatures.
- Presence of open flame.
- Product is considered stable.
- Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION**POTENTIAL HEALTH EFFECTS****ACUTE HEALTH EFFECTS**

Irritating to eyes.

Vapours may cause dizziness or suffocation.

Vapours may cause drowsiness and dizziness.

Inhalation, skin contact and/or ingestion may produce health damage*.

May produce discomfort of the respiratory system and skin*.

* (limited evidence).

CHRONIC HEALTH EFFECTS

May cause harm to the unborn child.

Repeated exposure may cause skin dryness and cracking.

Cumulative effects may result following exposure*.

* (limited evidence).

TOXICITY AND IRRITATION

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

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

ETHANOL:

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (rat) LD50: 7060 mg/kg

Oral (human) LDLo: 1400 mg/kg

Oral (man) TDLo: 50 mg/kg

Oral (man) TDLo: 1.40 mg/kg

Oral (woman) TDLo: 256 mg/kg/12 wks

Inhalation (rat) LC50: 20,000 ppm/10h

Inhalation (rat) LC50: 64000 ppm/4h

IRRITATION

Skin (rabbit):20 mg/24hr-Moderate

Skin (rabbit):400 mg (open)-Mild

Eye (rabbit):100mg/24hr-Moderate

Eye (rabbit): 500 mg SEVERE

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

DY-MARK STEAD STOCKMARKER LEAD FREE COLOURS AEROSOL

Chemwatch Material Safety Data Sheet

Revision No: 2.0

Hazard Alert Code:
EXTREME

Issue Date: 15-Feb-2008

Chemwatch 02-1075

CD 2008/2

ACETONE:

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

Oral (man) TDLo: 2857 mg/kg

Eye (human): 500 ppm - Irritant

Oral (rat) LD50: 5800 mg/kg

Eye (rabbit): 3.95 mg - SEVERE

Inhalation (human) TCLo: 500 ppm

Eye (rabbit): 20mg/24hr -Moderate

Inhalation (man) TCLo: 12000 ppm/4 hr

Skin (rabbit):395mg (open) - Mild

Inhalation (man) TCLo: 10 mg/m³/6 hr

Skin (rabbit): 500 mg/24hr - Mild

Inhalation (rat) LC50: 50100 mg/m³/8 hr

Dermal (rabbit) LD50: 20000 mg/kg

METHYL VINYL ETHER/ MALEIC ACID MONOBUTYL ESTER COPOLYMER:

No significant acute toxicological data identified in literature search.

PROPYLENE GLYCOL MONOMETHYL ETHER:

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

Oral (rat) LD50: 3739 mg/kg

Skin (rabbit) 500 mg Open - Mild

Inhalation (human) TCLo: 3000 ppm

Eye (rabbit) 230 mg Mild

Inhalation (rat) LC50: 10000 ppm/5 h.

Eye (rabbit) 500 mg/24 h. - Mild

Dermal (rabbit) LD50: 13000 mg/kg

The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

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

NOTE: Exposure of pregnant rats and rabbits to the substance did not

give rise to teratogenic effects at concentrations up to 3000 ppm.

Fetotoxic effects were seen in rats but not in rabbits at this

concentration; maternal toxicity was noted in both species.

DIBUTYL PHTHALATE:

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

Oral (human) TDLo: 140 mg/kg

Nil Reported

Oral (rat) LD50: 8000 mg/kg

Inhalation (rat) LD50: 4250 mg/m³

Oral (rat) LOAEL: 66 mg/kg/day

The material may produce peroxisome proliferation. Peroxisomes are single, membrane limited organelles in the cytoplasm that are found in the cells of animals, plants, fungi, and protozoa. Peroxisome proliferators include certain hypolipidaemic drugs, phthalate ester plasticisers, industrial solvents, herbicides, food flavours, leukotriene D4 antagonists and hormones. Animal studies have shown that peroxisome proliferators clearly cause cancer, especially of the liver.

MONOISOBUTANOLAMINE:

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

Oral (rat) LD50: 2900 mg/kg

Nil Reported

Oral (mouse) LD50: 2150 mg/kg

Oral (rabbit) LDLo: 1000 mg/kg

Inhalation (rat) TCLo: 0.23 mg/m³/4h/13W-I**DIMETHYL ETHER:**

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

Inhalation (rat) LC50: 308000 mg/m³

Nil Reported

MATERIAL	CARCINOGEN	REPROTOXIN	SENSITISER	SKIN
ethanol		ILOM		
monoisobutanolamine	IARC:2A			

ethanol

monoisobutanolamine

IARC:2A

ILOM

REPROTOXIN

ILOM: ILO Agents toxic to the male reproductive system: ethanol

CARCINOGEN

IARC: International Agency for Research on Cancer (IARC) Carcinogens: monoisobutanolamine Category: WARNING: This substance has been classified by the IARC as Group 2A: Probably Carcinogenic to Humans.

Section 12 - ECOLOGICAL INFORMATION

Marine Pollutant:Not Determined

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

This material and its container must be disposed of as hazardous waste.

DY-MARK STEAD STOCKMARKER LEAD FREE COLOURS AEROSOL

Chemwatch Material Safety Data Sheet

Revision No: 2.0

Hazard Alert Code:

EXTREME

Issue Date: 15-Feb-2008

Chemwatch 02-1075

CD 2008/2

Section 13 - DISPOSAL CONSIDERATIONS

- 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 - TRANSPORTATION INFORMATION

Labels Required: FLAMMABLE GAS

HAZCHEM: 2Y

UNDG:

Dangerous Goods Class:	2.1	Subrisk:	None
UN Number:	1950	Packing Group:	None

Shipping Name: AEROSOLS

Air Transport IATA:

ICAO/IATA Class:	2.1	ICAO/IATA Subrisk:	None
UN/ID Number:	1950	Packing Group:	None

Special provisions: A145 A153

Shipping Name: AEROSOLS, FLAMMABLE

Maritime Transport IMDG:

IMDG Class:	2.1	IMDG Subrisk:	SP63
UN Number:	1950	Packing Group:	None
EMS Number:	F-D,S-U	Special provisions:	63 190 277 327 959
Limited Quantities:	See SP277	Marine Pollutant:	Not Determined

Shipping Name: AEROSOLS

Section 15 - REGULATORY INFORMATION**POISONS SCHEDULE**

None

REGULATIONS

DY- MARK STEAD STOCKMARKER LEAD FREE COLOURS AEROSOL (CAS: None):

No regulations applicable

ethanol (CAS: 64- 17- 5) is found on the following regulatory lists;

Australia Exposure Standards

Australia Hazardous Substances

Australia High Volume Industrial Chemical List (HVICL)

Australia Inventory of Chemical Substances (AICS)

Australia National Pollutant Inventory

Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 5

GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships

IMO IBC Code Chapter 18: List of products to which the Code does not apply

IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances

IMO Provisional Categorization of Liquid Substances - List 1: Pure or technically pure products

IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO

International Air Transport Association (IATA) Dangerous Goods Regulations

International Council of Chemical Associations (ICCA) - High Production Volume List

OECD Representative List of High Production Volume (HPV) Chemicals

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

Australia Exposure Standards

Australia Hazardous Substances

Australia High Volume Industrial Chemical List (HVICL)

DY-MARK STEAD STOCKMARKER LEAD FREE COLOURS AEROSOL

Chemwatch Material Safety Data Sheet

Revision No: 2.0

**Hazard Alert Code:
EXTREME**

Chemwatch 02-1075

Issue Date: 15-Feb-2008

CD 2008/2

Australia Illicit Drug Reagents/Essential Chemicals - Category III
 Australia Inventory of Chemical Substances (AICS)
 Australia National Pollutant Inventory
 Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix E (Part 2)
 Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix F (Part 3)
 Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 5
 GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships
 IMO IBC Code Chapter 18: List of products to which the Code does not apply
 IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances
 International Air Transport Association (IATA) Dangerous Goods Regulations
 OECD Representative List of High Production Volume (HPV) Chemicals
 United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances - Table II
 United Nations List of Precursors and Chemicals Frequently used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances Under International Control - Table II
 methyl vinyl ether/ maleic acid monobutyl ester copolymer (CAS: 25119- 68- 0) is found on the following regulatory lists;
 Australia Exposure Standards
 Australia Inventory of Chemical Substances (AICS)
 propylene glycol monomethyl ether (CAS: 107- 98- 2) is found on the following regulatory lists;
 Australia Exposure Standards
 Australia Hazardous Substances
 Australia Inventory of Chemical Substances (AICS)
 GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships
 IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk
 International Air Transport Association (IATA) Dangerous Goods Regulations
 International Council of Chemical Associations (ICCA) - High Production Volume List
 OECD Representative List of High Production Volume (HPV) Chemicals
 propylene glycol monomethyl ether (CAS: 1320- 67- 8) is found on the following regulatory lists;
 Australia Inventory of Chemical Substances (AICS)
 GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships
 International Air Transport Association (IATA) Dangerous Goods Regulations
 dibutyl phthalate (CAS: 84- 74- 2) is found on the following regulatory lists;
 Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (Aquatic habitat)
 Australia - Australian Capital Territory Environment Protection Regulation Ecosystem maintenance - Organic chemicals - Non-pesticide anthropogenic organics
 Australia Exposure Standards
 Australia Hazardous Substances
 Australia Inventory of Chemical Substances (AICS)
 Australia National Pollutant Inventory
 GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships
 IMO IBC Code Chapter 17: Summary of minimum requirements
 IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk
 OECD Representative List of High Production Volume (HPV) Chemicals
 OSPAR List of Chemicals for Priority Action
 OSPAR List of Substances of Possible Concern
 monoisobutanolamine (CAS: 124- 68- 5) is found on the following regulatory lists;
 Australia Hazardous Substances
 Australia Inventory of Chemical Substances (AICS)
 GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships
 IMO IBC Code Chapter 17: Summary of minimum requirements
 International Agency for Research on Cancer (IARC) Carcinogens
 International Council of Chemical Associations (ICCA) - High Production Volume List
 OECD Representative List of High Production Volume (HPV) Chemicals
 dimethyl ether (CAS: 115- 10- 6) is found on the following regulatory lists;
 Australia Exposure Standards
 Australia Hazardous Substances
 Australia Inventory of Chemical Substances (AICS)
 Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 5
 International Air Transport Association (IATA) Dangerous Goods Regulations
 International Council of Chemical Associations (ICCA) - High Production Volume List
 OECD Representative List of High Production Volume (HPV) Chemicals
 No data available for propylene glycol monomethyl ether as CAS: 28677- 93- 2.

Section 16 - OTHER INFORMATION**Denmark Advisory list for selfclassification of dangerous substances**

Substance CAS Suggested codes dibutyl phthalate 84- 74- 2 N; R51/53

Ingredients with multiple CAS Nos

Ingredient Name	CAS
propylene glycol monomethyl ether	107-98-2, 1320-67-8, 28677-93-2

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:

DY-MARK STEAD STOCKMARKER LEAD FREE COLOURS AEROSOL

Chemwatch Material Safety Data Sheet

Revision No: 2.0

Hazard Alert Code:
EXTREME

Issue Date: 15-Feb-2008

Chemwatch 02-1075

CD 2008/2

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.

Issue Date: 15-Feb-2008

Print Date: 6-Oct-2008