

Dy-Mark Mine Marking NF Std All Colours

Dy-Mark

Chemwatch: 42095

Version No: 21.1

Safety Data Sheet according to Work Health and Safety Regulations (Hazardous Chemicals) 2023 and ADG requirements

Chemwatch Hazard Alert Code: 2

Initial Date: 28/03/2004

Revision Date: 10/10/2025

Print Date: 13/02/2026

S.GHS.AUS.EN.E

SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier

| | |
|-------------------------------|--|
| Product name | Dy-Mark Mine Marking NF Std All Colours |
| Chemical Name | Not Applicable |
| Synonyms | 38023502 Hz Red; 38023505 Hz Yellow; 38023506 Hz Orange; 38023511 Hz White; 38043502 Vert Red; 38043505 Vert Yellow; 38043506 Vert Orange; 38043511 Vert White; 38923502 Red Horiz; 38923505, 38923506, 38923511, 38943502, 38943505, 38943506, 38943511 |
| Proper shipping name | AEROSOLS |
| Chemical formula | Not Applicable |
| Other means of identification | Not Available |

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

| | |
|--------------------------|--|
| Relevant identified uses | Non flammable aerosol spray marker paint for use in coal mines, as per approval letter Queensland Department of Minerals and Energy. Application is by spray atomisation from a hand held aerosol pack |
|--------------------------|--|

Details of the manufacturer or importer 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 | https://www.dymark.com.au |
| Email | info@dymark.com.au |

Emergency telephone number

| | |
|-------------------------------------|-----------------|
| Association / Organisation | Dy-Mark |
| Emergency telephone number(s) | +61 7 3327 3099 |
| Other emergency telephone number(s) | 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 | 0 | |
| Toxicity | 2 |  |
| Body Contact | 2 |  |
| Reactivity | 1 |  |
| Chronic | 2 |  |

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

| | |
|--------------------|---|
| Poisons Schedule | Not Applicable |
| Classification [1] | Aerosols, Hazard Category 3, Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A, Carcinogenicity Category 2, Reproductive Toxicity Category 2, Specific Target Organ Toxicity - Repeated Exposure Category 2, Hazardous to the Aquatic Environment Acute 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) |   |
|---------------------|---|

| | |
|-------------|---------|
| Signal word | Warning |
|-------------|---------|

Hazard statement(s)

| | |
|--------|--|
| H229 | Pressurised container: May burst if heated. |
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H351 | Suspected of causing cancer. |
| H361fd | Suspected of damaging fertility. Suspected of damaging the unborn child. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H402 | Harmful to aquatic life. |

Precautionary statement(s) Prevention

| | |
|------|--|
| P202 | Do not handle until all safety precautions have been read and understood. |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P251 | Do not pierce or burn, even after use. |
| P260 | Do not breathe mist/vapours/spray. |
| P280 | Wear protective gloves, protective clothing, eye protection and face protection. |
| P264 | Wash all exposed external body areas thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P273 | Avoid release to the environment. |

Precautionary statement(s) Response

| | |
|----------------|--|
| 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. |
| P314 | Get medical advice/attention if you feel unwell. |
| P337+P313 | If eye irritation persists: Get medical advice/attention. |
| P301+P312 | IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider if you feel unwell. |
| P302+P352 | IF ON SKIN: Wash with plenty of water and soap. |
| P330 | Rinse mouth. |
| P332+P313 | If skin irritation occurs: Get medical advice/attention. |
| P362+P364 | Take off contaminated clothing and wash it before reuse. |

Precautionary statement(s) Storage

| | |
|-----------|--|
| P405 | Store locked up. |
| P410+P412 | Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. |

Precautionary statement(s) Disposal

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

No further product hazard information.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

| CAS No | %[weight] | Name |
|---------------|-----------|--|
| 75-09-2 | 30-60 | <u>methylene chloride</u> |
| 111-76-2 | 1-10 | <u>ethylene glycol monobutyl ether</u> |
| Not Available | 10-30 | pigment and filler, non-hazardous |
| Not Available | 1-10 | resin, non-hazardous |
| 811-97-2 | 12-15 | <u>1,1,2-tetrafluoroethane</u> |
| 124-38-9 | 1-3 | <u>carbon dioxide</u> |

Legend: 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available

SECTION 4 First aid measures

Description of first aid measures

Continued...

| | |
|---------------------|---|
| Eye Contact | If aerosols come in contact with the eyes: <ul style="list-style-type: none"> ▶ 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: <ul style="list-style-type: none"> ▶ 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. |
| Inhalation | If aerosols, fumes or combustion products are inhaled: <ul style="list-style-type: none"> ▶ 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. ▶ 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. |
| Ingestion | Not considered a normal route of entry. If poisoning occurs, contact a doctor or Poisons Information Centre. <ul style="list-style-type: none"> ▶ Avoid giving milk or oils. ▶ Avoid giving alcohol. |

Indication of any immediate medical attention and special treatment needed

for intoxication due to Freons/ Halons;

A: Emergency and Supportive Measures

- ▶ Maintain an open airway and assist ventilation if necessary
- ▶ Treat coma and arrhythmias if they occur. Avoid (adrenaline) epinephrine or other sympathomimetic amines that may precipitate ventricular arrhythmias. Tachyarrhythmias caused by increased myocardial sensitisation may be treated with propranolol, 1-2 mg IV or esmolol 25-100 microg/kg/min IV.
- ▶ Monitor the ECG for 4-6 hours

B: Specific drugs and antidotes:

- ▶ There is no specific antidote

C: Decontamination

- ▶ Inhalation; remove victim from exposure, and give supplemental oxygen if available.
- ▶ Ingestion; (a) Prehospital: Administer activated charcoal, if available. **DO NOT** induce vomiting because of rapid absorption and the risk of abrupt onset CNS depression. (b) Hospital: Administer activated charcoal, although the efficacy of charcoal is unknown. Perform gastric lavage only if the ingestion was very large and recent (less than 30 minutes)

D: Enhanced elimination:

- ▶ There is no documented efficacy for diuresis, haemodialysis, haemoperfusion, or repeat-dose charcoal.

POISONING and DRUG OVERDOSE, Californian Poison Control System Ed. Kent R Olson; 3rd Edition

- ▶ Do not administer sympathomimetic drugs unless absolutely necessary as material may increase myocardial irritability.

- ▶ No specific antidote.

- ▶ Because rapid absorption may occur through lungs if aspirated and cause systematic effects, the decision of whether to induce vomiting or not should be made by an attending physician.

- ▶ If lavage is performed, suggest endotracheal and/or esophageal control.

- ▶ Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach.

- ▶ Treatment based on judgment of the physician in response to reactions of the patient

Followed acute or short term repeated exposures to ethylene glycol monoalkyl ethers and their acetates:

- ▶ Hepatic metabolism produces ethylene glycol as a metabolite.

- ▶ Clinical presentation, following severe intoxication, resembles that of ethylene glycol exposures.

- ▶ Monitoring the urinary excretion of the alkoxyacetic acid metabolites may be a useful indication of exposure.

[Ellenhorn and Barceloux: Medical Toxicology]

Treat symptomatically.

For acute or short term repeated exposures to ethylene glycol:

- ▶ Early treatment of ingestion is important. Ensure emesis is satisfactory.

- ▶ Test and correct for metabolic acidosis and hypocalcaemia.

- ▶ Apply sustained diuresis when possible with hypertonic mannitol.

- ▶ Evaluate renal status and begin haemodialysis if indicated. [I.L.O]

- ▶ Rapid absorption is an indication that emesis or lavage is effective only in the first few hours. Cathartics and charcoal are generally not effective.

- ▶ Correct acidosis, fluid/electrolyte balance and respiratory depression in the usual manner. Systemic acidosis (below 7.2) can be treated with intravenous sodium bicarbonate solution.

- ▶ Ethanol therapy prolongs the half-life of ethylene glycol and reduces the formation of toxic metabolites.

- ▶ Pyridoxine and thiamine are cofactors for ethylene glycol metabolism and should be given (50 to 100 mg respectively) intramuscularly, four times per day for 2 days.

- ▶ Magnesium is also a cofactor and should be replenished. The status of 4-methylpyrazole, in the treatment regime, is still uncertain. For clearance of the material and its metabolites, haemodialysis is much superior to peritoneal dialysis.

[Ellenhorn and Barceloux: Medical Toxicology]

It has been suggested that there is a need for establishing a new biological exposure limit before a workshift that is clearly below 100 mmol ethoxy-acetic acids per mole creatinine in morning urine of people occupationally exposed to ethylene glycol ethers. This arises from the finding that an increase in urinary stones may be associated with such exposures.

Laitinen J., et al: *Occupational & Environmental Medicine* 1996; 53, 595-600

SECTION 5 Firefighting measures

Extinguishing media

SMALL FIRE:

- ▶ Water spray, dry chemical or CO₂

LARGE FIRE:

- ▶ Water spray or fog.

Special hazards arising from the substrate or mixture

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

Advice for firefighters

| | |
|----------------------|---|
| Fire Fighting | ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May be violently or explosively reactive. ▶ Wear breathing apparatus plus protective gloves. ▶ Prevent, by any means available, spillage from entering drains or water course. |
|----------------------|---|

Continued...

| | |
|------------------------------|--|
| | <ul style="list-style-type: none"> ► 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 | <ul style="list-style-type: none"> ► Non combustible. ► Not considered to be a significant fire risk. ► Heating may cause expansion or decomposition leading to violent rupture of containers. ► 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. ► Decomposes on heating and may emit toxic fumes of carbon monoxide (CO). <p>Decomposition may produce toxic fumes of:</p> <ul style="list-style-type: none"> ► carbon monoxide (CO) ► carbon dioxide (CO₂) <p>hydrogen chloride phosgene hydrogen fluoride</p> <ul style="list-style-type: none"> ► other pyrolysis products typical of burning organic material. <p>Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.</p> |
| HAZCHEM | Not Applicable |

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

| | |
|---------------------|--|
| Minor Spills | <ul style="list-style-type: none"> ► 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 | <ul style="list-style-type: none"> ► Remove leaking cylinders to a safe place if possible. ► Release pressure under safe, controlled conditions by opening the valve. ► 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. |

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

SECTION 7 Handling and storage

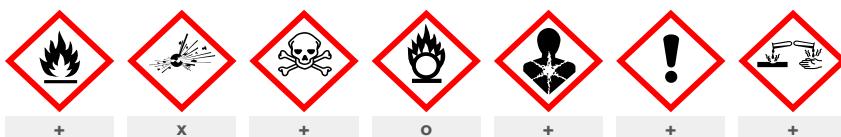
Precautions for safe handling

| | |
|--------------------------|---|
| Safe handling | <ul style="list-style-type: none"> ► Avoid skin 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. |
| Other information | <ul style="list-style-type: none"> ► Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can |

Conditions for safe storage, including any incompatibilities

| | |
|--------------------------------|---|
| Suitable container | <ul style="list-style-type: none"> ► DO NOT use aluminium or galvanised containers ► Aerosol dispenser. ► Check that containers are clearly labelled. |
| Storage incompatibility | <ul style="list-style-type: none"> ► Avoid reaction with oxidising agents |

Continued...



X — Must not be stored together

0 — May be stored together with specific preventions

+ — May be stored together

Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.

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 | methylene chloride | Methylene chloride | 50 ppm / 174 mg/m3 | Not Available | Not Available | Not Available |
| Australia Workplace exposure limits for airborne contaminants (WEL list) (From 1 December 2026) - Appendix A - Workplace Exposure Limits | methylene chloride | Methylene chloride | 50 ppm / 174 mg/m3 | Not Available | Not Available | Not Available |
| Australia Exposure Standards | ethylene glycol monobutyl ether | 2-Butoxyethanol | 20 ppm / 96.9 mg/m3 | 242 mg/m3 / 50 ppm | Not Available | Not Available |
| Australia Workplace exposure limits for airborne contaminants (WEL list) (From 1 December 2026) - Appendix A - Workplace Exposure Limits | ethylene glycol monobutyl ether | 2-Butoxyethanol | 10 ppm / 49 mg/m3 | 196 mg/m3 / 40 ppm | Not Available | Not Available |
| Australia Exposure Standards | 1,1,1,2-tetrafluoroethane | 1,1,1,2-Tetrafluoroethane | 1000 ppm / 4240 mg/m3 | Not Available | Not Available | Not Available |
| Australia Workplace exposure limits for airborne contaminants (WEL list) (From 1 December 2026) - Appendix A - Workplace Exposure Limits | 1,1,1,2-tetrafluoroethane | 1,1,1,2-Tetrafluoroethane | 1000 ppm / 4240 mg/m3 | Not Available | Not Available | Not Available |
| Australia Exposure Standards | carbon dioxide | Carbon dioxide | 5000 ppm / 9000 mg/m3 | 54000 mg/m3 / 30000 ppm | Not Available | Not Available |
| Australia Exposure Standards | carbon dioxide | Carbon dioxide in coal mines | 12500 ppm / 22500 mg/m3 | 54000 mg/m3 / 30000 ppm | Not Available | Not Available |
| Australia Workplace exposure limits for airborne contaminants (WEL list) (From 1 December 2026) - Appendix A - Workplace Exposure Limits | carbon dioxide | Carbon dioxide | 5000 ppm / 9000 mg/m3 | 54000 mg/m3 / 30000 ppm | Not Available | Not Available |

Exposure controls

| | | | |
|---|---|----------------------------------|--|
| Appropriate engineering controls | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> <p>General exhaust is adequate under normal conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection.</p> <p>Provide adequate ventilation in warehouse or closed storage areas.</p> <p>Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.</p> | | |
| | 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

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|---|---|
| | 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. |
| Individual protection measures, such as personal protective equipment |     |
| Eye and face protection | <ul style="list-style-type: none"> ▶ No special equipment for minor exposure i.e. when handling small quantities. ▶ OTHERWISE: For potentially moderate or heavy exposures: <ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ NOTE: Contact lenses pose a special hazard; soft lenses may absorb irritants and ALL lenses concentrate them. |
| Skin protection | See Hand protection below |
| Hands/feet protection | <ul style="list-style-type: none"> ▶ No special equipment needed when handling small quantities. ▶ OTHERWISE: <ul style="list-style-type: none"> ▶ 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 |
| Other protection | <p>No special equipment needed when handling small quantities.</p> <p>OTHERWISE:</p> <ul style="list-style-type: none"> ▶ Overalls. ▶ Skin cleansing cream. ▶ Eyewash 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:

Dy-Mark Mine Marking NF Std All Colours

| Material | CPI |
|-------------------|-----|
| PE/EVAL/PE | A |
| BUTYL | C |
| CPE | C |
| NAT+NEOPR+NITRILE | C |
| NATURAL RUBBER | C |
| NEOPRENE | C |
| NITRILE | C |
| PVA | C |
| PVC | C |
| SARANEX-23 | C |
| TEFLON | C |
| VITON | C |
| VITON/BUTYL | C |
| VITON/CHLOROBUTYL | C |

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

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

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

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

Ansell Glove Selection

| Glove — In order of recommendation |
|------------------------------------|
| AlphaTec® 38-612 |
| AlphaTec® 53-001 |
| AlphaTec® 58-005 |
| MICROFLEX® LifeStar EC™ 93-868 |
| MICROFLEX® MidKnight® XTRA 93-862 |
| AlphaTec® Solvex® 37-175 |
| BioClean™ Emerald BENS |
| BioClean™ Extra BLAS |
| BioClean™ Fusion (Sterile) S-BFAP |
| BioClean™ N-Plus BNPS |

The suggested gloves for use should be confirmed with the glove supplier.

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SECTION 9 Physical and chemical properties**Information on basic physical and chemical properties**

| | | | |
|---|--|--|----------------|
| Appearance | Volatile coloured liquid with an ether-like odour; does not mix with water. Contents under pressure. Supplied in aerosol pack containing non flammable propellant. | | |
| Physical state | Liquid | Relative density (Water = 1) | 1.1 approx. |
| 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 (°C) | Not Available |
| Melting point / freezing point (°C) | Not Available | Viscosity (cSt) | Not Available |
| Initial boiling point and boiling range (°C) | 40 | Molecular weight (g/mol) | Not Applicable |
| Flash point (°C) | Not Applicable | Taste | Not Available |
| Evaporation rate | Not Available | Explosive properties | Not Available |
| Flammability | Not Applicable | Oxidising properties | Not Available |
| Upper Explosive Limit (%) | Not Applicable | Surface Tension (dyn/cm or mN/m) | Not Available |
| Lower Explosive Limit (%) | Not Applicable | Volatile Component (%vol) | >60 |
| Vapour pressure (kPa) | Not Available | Gas group | Not Available |
| Solubility in water | Immiscible | pH as a solution (1%) | Not Applicable |
| Vapour density (Air = 1) | >1 | VOC g/L | Not Available |
| Heat of Combustion (kJ/g) | Not Available | Ignition Distance (cm) | Not Available |
| Flame Height (cm) | Not Available | Flame Duration (s) | Not Available |
| Enclosed Space Ignition Time Equivalent (s/m3) | Not Available | Enclosed Space Ignition Deflagration Density (g/m3) | Not Available |

SECTION 10 Stability and reactivity

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|---|--|
| Reactivity | See section 7 |
| Chemical stability | ► Elevated temperatures. ► Presence of open flame. ► Product is considered stable. ► Hazardous polymerisation will not occur. |
| 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**

| | |
|---|--|
| a) Acute Toxicity | There is sufficient evidence to classify this material as acutely toxic. |
| b) Skin Irritation/Corrosion | There is sufficient evidence to classify this material as skin corrosive or irritating. |
| c) Serious Eye Damage/Irritation | There is sufficient evidence to classify this material as eye damaging or irritating |
| d) Respiratory or Skin sensitisation | Based on available data, the classification criteria are not met. |
| e) Mutagenicity | Based on available data, the classification criteria are not met. |
| f) Carcinogenicity | There is sufficient evidence to classify this material as carcinogenic |
| g) Reproductivity | There is sufficient evidence to classify this material as toxic to reproductivity |
| h) STOT - Single Exposure | Based on available data, the classification criteria are not met. |
| i) STOT - Repeated Exposure | There is sufficient evidence to classify this material as toxic to specific organs through repeated exposure |
| j) Aspiration Hazard | Based on available data, the classification criteria are not met. |
| Inhaled | <p>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.</p> <p>Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.</p> <p>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.</p> <p>Inhalation of toxic gases may cause:</p> <ul style="list-style-type: none"> ► 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; ► gastrointestinal: irritation, ulcers, nausea and vomiting (may be bloody), and abdominal pain. <p>Inhalation hazard is increased at higher temperatures.</p> |

Continued...

| | |
|--------------|---|
| | <p>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. Symptoms of asphyxia (suffocation) may include headache, dizziness, shortness of breath, muscular weakness, drowsiness and ringing in the ears. If the asphyxia is allowed to progress, there may be nausea and vomiting, further physical weakness and unconsciousness and, finally, convulsions, coma and death. The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation.</p> <p>WARNING: Intentional misuse by concentrating/inhaling contents may be lethal.</p> |
| Ingestion | <p>Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.</p> <p>Not normally a hazard due to physical form of product.</p> <p>Considered an unlikely route of entry in commercial/industrial environments</p> |
| Skin Contact | <p>The material may cause severe inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.</p> <p>Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.</p> <p>Spray mist may produce discomfort Fluorocarbons remove natural oils from the skin, causing irritation, dryness and sensitivity.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> |
| Eye | <p>There is some evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Moderate inflammation may be expected with redness; conjunctivitis may occur with prolonged exposure.</p> <p>Not considered to be a risk because of the extreme volatility of the gas.</p> |
| Chronic | <p>There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.</p> <p>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>There is some evidence from animal testing that exposure to this material may result in reduced fertility.</p> <p>Main route of exposure to the gas in the workplace is by inhalation.</p> <p>Dichloromethane 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.</p> |

| | | |
|---|--|---|
| Dy-Mark Mine Marking NF Std All Colours | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| methylene chloride | TOXICITY | IRRITATION |
| | dermal (rat) LD50: >2000 mg/kg ^[2] | Eye (Rodent - rabbit): 10mg - Mild |
| | Inhalation (Rat) LC50: 76 mg/L4h ^[2] | Eye (Rodent - rabbit): 162mg - Moderate |
| | Oral (Rat) LD50: 1600 mg/kg ^[2] | Eye (Rodent - rabbit): 500mg/24H - Mild |
| | | Eye: adverse effect observed (irritating) ^[1] |
| | | Skin (Rodent - rabbit): 100mg/24H - Moderate |
| | | Skin (Rodent - rabbit): 810mg/24H - Severe |
| ethylene glycol monobutyl ether | TOXICITY | IRRITATION |
| | Dermal (Guinea Pig) LD50: 210 mg/kg ^[2] | Eye (Rodent - rabbit): 100mg/24H - Moderate |
| | Inhalation (Rat) LC50: 450 ppm4h ^[2] | Eye: adverse effect observed (irritating) ^[1] |
| | Oral (Rat) LD50: 250 mg/kg ^[2] | Skin (Rodent - rabbit): 500mg - Mild |
| | | Skin: adverse effect observed (irritating) ^[1] |
| 1,1,1,2-tetrafluoroethane | TOXICITY | IRRITATION |
| | Inhalation (Rat) LC50: 359453.102 ppm4h ^[2] | Eye: adverse effect observed (irritating) ^[1] |
| | | Skin: adverse effect observed (irritating) ^[1] |
| carbon dioxide | TOXICITY | IRRITATION |
| | Not Available | Not Available |

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

| | |
|---------------------------------|--|
| METHYLENE CHLORIDE | <p>Inhalation (human) TCLO: 500 ppm/ 1 y - I Eye(rabbit): 10 mg - mild</p> <p>WARNING: This substance has been classified by the IARC as Group 2A: Probably Carcinogenic to Humans.</p> |
| ETHYLENE GLYCOL MONOBUTYL ETHER | <p>NOTE: Changes in kidney, liver, spleen and lungs are observed in animals exposed to high concentrations of this substance by all routes. ** ASCC (NZ) SDS</p> <p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.</p> <p>For ethylene glycol monoalkyl ethers and their acetates (EGMAEs):</p> <p>Typical members of this category are ethylene glycol propylene ether (EGPE), ethylene glycol butyl ether (EGBE) and ethylene glycol hexyl ether (EGHE) and their acetates.</p> <p>EGMAEs are substrates for alcohol dehydrogenase isozyme ADH-3, which catalyzes the conversion of their terminal alcohols to aldehydes (which are transient metabolites). Further, rapid conversion of the aldehydes by aldehyde dehydrogenase produces alkoxyacetic acids, which are the predominant urinary metabolites of mono substituted glycol ethers.</p> |

Continued...

Acute Toxicity: Oral LD50 values in rats for all category members range from 739 (EGHE) to 3089 mg/kg bw (EGPE), with values increasing with decreasing molecular weight. Four to six hour acute inhalation toxicity studies were conducted for these chemicals in rats at the highest vapour concentrations practically achievable. Values range from LC0 > 85 ppm (508 mg/m3) for EGHE, LC50 > 400 ppm (2620 mg/m3) for EGBEA to LC50 > 2132 ppm (9061 mg/m3) for EGPE. No lethality was observed for any of these materials under these conditions. Dermal LD50 values in rabbits range from 435 mg/kg bw (EGBE) to 1500 mg/kg bw (EGBEA). Overall these category members can be considered to be of low to moderate acute toxicity. All category members cause reversible irritation to skin and eyes, with EGBEA less irritating and EGHE more irritating than the other category members. EGPE and EGBE are not sensitizers in experimental animals or humans. Signs of acute toxicity in rats, mice and rabbits are consistent with haemolysis (with the exception of EGHE) and non-specific CNS depression typical of organic solvents in general. Alkoxyacetic acid metabolites, propoxyacetic acid (PAA) and butoxyacetic acid (BAA), are responsible for the red blood cell hemolysis. Signs of toxicity in humans deliberately ingesting cleaning fluids containing 9-22% EGBE are similar to those of rats, with the exception of haemolysis. Although decreased blood haemoglobin and/or haemoglobinuria were observed in some of the human cases, it is not clear if this was due to haemolysis or haemodilution as a result of administration of large volumes of fluid. Red blood cells of humans are many-fold more resistant to toxicity from EGPE and EGBE *in vitro* than those of rats.

Repeat dose toxicity: The fact that the NOAEL for repeated dose toxicity of EGBE is less than that of EGPE is consistent with red blood cells being more sensitive to EGBE than EGPE. Blood from mice, rats, hamsters, rabbits and baboons were sensitive to the effects of BAA *in vitro* and displayed similar responses, which included erythrocyte swelling (increased haematocrit and mean corpuscular hemoglobin), followed by hemolysis. Blood from humans, pigs, dogs, cats, and guinea pigs was less sensitive to haemolysis by BAA *in vitro*.

Mutagenicity: In the absence and presence of metabolic activation, EGBE tested negative for mutagenicity in Ames tests conducted in *S. typhimurium* strains TA97, TA98, TA100, TA1535 and TA1537 and EGHE tested negative in strains TA98, TA100, TA1535, TA1537 and TA1538. *In vitro* cytogenicity and sister chromatid exchange assays with EGBE and EGHE in Chinese Hamster Ovary Cells with and without metabolic activation and *in vivo* micronucleus tests with EGBE in rats and mice were negative, indicating that these glycol ethers are not genotoxic.

Carcinogenicity: In a 2-year inhalation chronic toxicity and carcinogenicity study with EGBE in rats and mice a significant increase in the incidence of liver haemangiosarcomas was seen in male mice and forestomach tumours in female mice. It was decided that based on the mode of action data available, there was no significant hazard for human carcinogenicity.

Reproductive and developmental toxicity. The results of reproductive and developmental toxicity studies indicate that the glycol ethers in this category are not selectively toxic to the reproductive system or developing fetus, developmental toxicity is secondary to maternal toxicity. The repeated dose toxicity studies in which reproductive organs were examined indicate that the members of this category are not associated with toxicity to reproductive organs (including the testes).

Results of the developmental toxicity studies conducted via inhalation exposures during gestation periods on EGPE (rabbits -125, 250, 500 ppm or 531, 1062, or 2125 mg/m3 and rats - 100, 200, 300, 400 ppm or 425, 850, 1275, or 1700 mg/m3), EGBE (rat and rabbit - 25, 50, 100, 200 ppm or 121, 241, 483, or 966 mg/m3), and EGHE (rat and rabbit - 20.8, 41.4, 79.2 ppm or 124, 248, or 474 mg/m3) indicate that the members of the category are not teratogenic.

The NOAELs for developmental toxicity are greater than 500 ppm or 2125 mg/m3 (rabbit-EGPE), 100 ppm or 425 mg/m3 (rat-EGPE), 50 ppm or 241 mg/m3 (rat EGBE) and 100 ppm or 483 mg/m3 (rabbit EGBE) and greater than 79.2 ppm or 474 mg/m3 (rat and rabbit-EGHE). Animal testing showed that exposure to ethylene glycol monobutyl ether resulted in toxicity to both the mother and the embryo. Reproductive effects were thought to be less than that of other monoalkyl ethers of ethylene glycol.

Chronic exposure may cause anaemia, with enlargement and fragility of red blood cells. It is thought that in animals butoxyethanol may cause generalized clotting and bone infarction. In animals, 2-butoxyethanol also increased the rate of some cancers, including liver cancer.

* with added oxygen - ZhongHao New Chemical Materials MSDS Excessive concentration can have a narcotic effect; inhalation of high concentrations of decomposition products can cause lung oedema.

Disinfection byproducts (DBPs) are formed when disinfectants such as chlorine, chloramines and ozone react with organic and inorganic matter in water. Animal studies have shown that some DBPs cause cancer. To date, several hundred DBPs have been identified.

Numerous haloalkanes and haloalkenes have been tested for cancer-causing and mutation-causing activities. In general, the potential to cause genetic toxicity is dependent on the nature, number and position of halogen(s) and the size of the molecule.

Haloalkenes are of concern because of the potential to generate genetically toxic intermediates after epoxidation. The concern for haloalkenes may be diminished if the double bond is internal or sterically hindered.

The cancer concern levels of the 14 haloalkenes and haloalkanes, have been rated, based on available screening cancer bioassays and data on genetic toxicity. Some individuals may be genetically more susceptible to brominated THMs than others.

Six, two and one haloalkanes/haloalkenes have been given low-moderate, marginal and low concern, respectively.

1,1,1,2-TETRAFLUOROETHANE

Dy-Mark Mine Marking NF Std All Colours & METHYLENE CHLORIDE

The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause severe 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. Repeated exposures may produce severe ulceration.

| | | | |
|-----------------------------------|---|--------------------------|---|
| 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
✓ - Data available to make classification

SECTION 12 Ecological information

Toxicity

| Dy-Mark Mine Marking NF Std All Colours | Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---------------|--------------------|-------------------------------|---------------|---------------|
| | Not Available | Not Available | Not Available | Not Available | Not Available |
| methylene chloride | Endpoint | Test Duration (hr) | Species | Value | Source |
| | BCF | 1008h | Fish | 2-5.4 | 7 |
| | EC50 | 72h | Algae or other aquatic plants | 202-286mg/l | 4 |
| | EC50 | 48h | Crustacea | 108.5mg/l | 1 |
| | EC50 | 96h | Algae or other aquatic plants | 0.98mg/l | 4 |
| | NOEC(ECx) | 24h | Algae or other aquatic plants | 0.98mg/l | 4 |
| | LC50 | 96h | Fish | 2-3.3mg/l | 4 |

Continued...

| | Endpoint | Test Duration (hr) | Species | Value | Source |
|---------------------------------|-----------|--------------------|-------------------------------|-----------|--------|
| ethylene glycol monobutyl ether | EC50 | 72h | Algae or other aquatic plants | 623mg/l | 2 |
| | EC50 | 48h | Crustacea | 164mg/l | 2 |
| | EC10(ECx) | 48h | Crustacea | 7.2mg/l | 2 |
| | EC50 | 96h | Algae or other aquatic plants | 720mg/l | 2 |
| | LC50 | 96h | Fish | 1250mg/l | 2 |
| 1,1,1,2-tetrafluoroethane | Endpoint | Test Duration (hr) | Species | Value | Source |
| | EC50 | 72h | Algae or other aquatic plants | >114mg/l | 2 |
| | EC50 | 48h | Crustacea | 980mg/L | 5 |
| | EC50 | 96h | Algae or other aquatic plants | 142mg/l | 2 |
| | LC50 | 96h | Fish | 450mg/l | 2 |
| carbon dioxide | NOEC(ECx) | 72h | Algae or other aquatic plants | ~13.2mg/l | 2 |
| | Endpoint | Test Duration (hr) | Species | Value | Source |
| | LC50 | 96h | Fish | 35mg/l | 1 |

Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. US EPA, Ecotox database - Aquatic Toxicity Data 4. ECETOC Aquatic Hazard Assessment Data 5. NITE (Japan) - Bioconcentration Data 6. METI (Japan) - Bioconcentration Data 7. Vendor Data

For Haloalkanes:

Atmospheric Fate: Fully, or partially, fluorinated haloalkanes released to the air can restrict heat loss from the Earth's atmosphere by absorbing infrared emissions from the surface. The major fate of haloalkanes in the atmosphere is via breakdown by hydroxyl radicals. These substances react with atmospheric ozone and nitrates, which also causes them to change, (transform). Chlorofluorocarbons, (CFC), haloalkanes can break down into chlorine atoms in the air, which also contribute to ozone destruction.

Terrestrial Fate: Biological breakdown of these substances is expected to be faster than non-biological breakdown, provided that there are sufficient substrates, nutrients and microbial populations. However, because haloalkane-degrading microorganisms are not easily found, biological breakdown of these substances is rare. Several methane-utilizing bacteria have been identified that may use haloalkanes. Biological breakdown may occur through various pathways.

Aquatic Fate: Haloalkanes do not easily break down in water. Biological breakdown of these substances is expected to be faster than non-biological breakdown, provided that there are sufficient substrates, nutrients and microbial populations. In general, alpha- and alpha, omega-chlorinated haloalkanes are de-halogenated by water. Alpha- and alpha, omega-haloalkanes with longer chains, may be de-halogenated by the addition of oxygen, (oxidized). Haloalkanes may break down in water, if certain sulfur ions are present, such as bisulfide ions.

Ecotoxicity: Haloparaffins C12 to C18 may be incorporated into fatty acids in bacteria, yeasts, and fungi, resulting in their build up in the food chain. Haloalkanes are persistent and toxic to fish and wildlife.

For Ethylene Glycol Monoalkyl Ethers and their Acetates:

log BCF: 0.463 to 0.732;

LC50 : 94 to > 5000 mg/L. (aqueous species).

Members of this category include ethylene glycol propyl ether (EGPE), ethylene glycol butyl ether (EGBE) and ethylene glycol hexyl ether (EGHE).

Environmental Fate: Aquatic Fate - The ethers possess no functional groups that are readily subject to hydrolysis in the presence of waters. The acetates possess an ester group that hydrolyses in neutral ambient water under abiotic conditions. Will partition predominately to water and, to a lesser extent, to air and soil. Soil - Highly mobile in soil.

Ecotoxicity: Ethylene glycol monoalkyl ethers and their acetates are readily biodegradable. The physical chemistry and environmental fate properties indicate that category members will not persist or bioconcentrate in the environment. Glycol ether acetates do not hydrolyze rapidly into their corresponding glycol ethers in water under environmental conditions. Glycol ether acetates are not acutely toxic to fish, specifically, zebra fish, rainbow trout and water fleas. Population changes were noted in freshwater and green algae species.

For Methylene Chloride: Log Kow: 1.25; Log Koc: 1.68; Log Kom: 1.44; Henry's atm m3 /mol: 2.68E-03; Henry's Law Constant: 0.002 atm/m3/mol; BCF: 5.

Atmospheric Fate: Methylene chloride is a volatile liquid that tends to evaporate to the atmosphere from water and soil. The main degradation pathway for methylene chloride in air is via reactions with hydroxyl radicals the average atmospheric lifetime is estimated to be 130 days. Because this degradation pathway is relatively slow, methylene chloride may become widely dispersed but, is not likely to accumulate in the atmosphere. The small amount of methylene chloride which reaches the stratosphere, (about 1%), may undergo direct breakdown by sunlight; however, this is not expected to occur in the troposphere. Reactions of methylene chloride with ozone or other common atmospheric species, (e.g., oxygen atoms, chlorine atoms, and nitrate radicals), are not believed to contribute to its breakdown.

Terrestrial Fate: The substance will evaporate rapidly from moist soil and does not sorb strongly to soil or sediment. Methylene chloride is likely to be highly mobile in soil and is expected to leach to groundwater. Biological breakdown is dependent on soil type, substrate concentration, and if the chemical gains or loses electrons, (redox reactions). The substance has been reported to be degraded in both oxygenated and low oxygen soils and degradation appears to accelerate in the presence of elevated levels of organic carbon. Methylene chloride has a low tendency to absorb to soil; therefore, there is a potential for leaching to groundwater. The substance is expected to evaporate from dry/moist soil.

Aquatic Fate: Methylene chloride will evaporate rapidly from water, however; evaporation rates vary with rate of mixing, wind speed, temperature, and other factors. The substance slowly breaks down in neutral pH water, with an experimental half-life of 18 months @ 25 C. This reaction rate varies greatly with changes in temperature and pH it has been estimated that the same reaction in acidic solutions would take 700 years. Oxygenated and non-oxygenated biological breakdown may be important fate processes for methylene chloride in water. Methylene chloride has been observed to undergo degradation at a rapid rate in the presence of oxygen.

Ecotoxicity: Only a few valid acute toxicity data, and no results from long-term studies in marine species, are available for this substance. Available data in marine species do not indicate a marked difference in the sensitivity of marine and freshwater species to this substance. Methylene chloride is moderately toxic to the common mummichog, daggerblade grass shrimp, and fathead minnow. The substance has low toxicity to Daphnia magna water fleas. Methylene chloride is not expected to accumulate/concentrate in aquatic organisms.

DO NOT discharge into sewer or waterways.

Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|---------------------------------|---------------------------|-----------------------------|
| methylene chloride | LOW (Half-life = 56 days) | HIGH (Half-life = 191 days) |
| ethylene glycol monobutyl ether | LOW (Half-life = 56 days) | LOW (Half-life = 1.37 days) |
| 1,1,1,2-tetrafluoroethane | HIGH | HIGH |
| carbon dioxide | LOW | LOW |

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|---------------------------------|---------------------|
| methylene chloride | LOW (BCF = 40) |
| ethylene glycol monobutyl ether | LOW (BCF = 2.51) |
| 1,1,1,2-tetrafluoroethane | LOW (LogKOW = 1.68) |
| carbon dioxide | LOW (LogKOW = 0.83) |

Continued...

Mobility in soil

| Ingredient | Mobility |
|---------------------------------|------------------------|
| methylene chloride | LOW (Log KOC = 23.74) |
| ethylene glycol monobutyl ether | HIGH (Log KOC = 1) |
| 1,1,1,2-tetrafluoroethane | LOW (Log KOC = 96.63) |
| carbon dioxide | HIGH (Log KOC = 1.498) |

SECTION 13 Disposal considerations**Waste treatment methods**

| | |
|-------------------------------------|---|
| Product / Packaging disposal | <ul style="list-style-type: none"> ► 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**

| | |
|-------------------------|---|
| |  |
| Marine Pollutant | NO |
| HAZCHEM | Not Applicable |

Land transport (ADG)

| | | |
|------------------------------------|--------------------|------------------------|
| 14.1. UN number or ID number | 1950 | |
| 14.2. UN proper shipping name | AEROSOLS | |
| 14.3. Transport hazard class(es) | Class | 2.2 |
| | Subsidiary Hazard | Not Applicable |
| 14.4. Packing group | Not Applicable | |
| 14.5. Environmental hazard | Not Applicable | |
| 14.6. Special precautions for user | Special provisions | 63 190 277 327 344 381 |
| | Limited quantity | 1000ml |

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**Sea transport (IMDG-Code / GGVSee)**

| | | |
|------------------------------------|------------------------|----------------------------|
| 14.1. UN number | 1950 | |
| 14.2. UN proper shipping name | AEROSOLS | |
| 14.3. Transport hazard class(es) | IMDG Class | 2.2 |
| | IMDG Subsidiary Hazard | Not Applicable |
| 14.4. Packing group | Not Applicable | |
| 14.5 Environmental hazard | Not Applicable | |
| 14.6. Special precautions for user | EMS Number | F-D, S-U |
| | Special provisions | 63 190 277 327 344 381 959 |
| | Limited Quantities | 1000 ml |

14.7. Maritime transport in bulk according to IMO instruments**14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

| Product name | Group |
|---------------------------------|----------------|
| methylene chloride | Not Applicable |
| ethylene glycol monobutyl ether | Not Applicable |

Continued...

| Product name | Group |
|---------------------------|----------------|
| 1,1,1,2-tetrafluoroethane | Not Applicable |
| carbon dioxide | Not Applicable |

14.7.3. Transport in bulk in accordance with the IGC Code

| Product name | Ship Type |
|---------------------------------|----------------|
| methylene chloride | Not Applicable |
| ethylene glycol monobutyl ether | Not Applicable |
| 1,1,1,2-tetrafluoroethane | Not Applicable |
| carbon dioxide | Not Applicable |

SECTION 15 Regulatory information

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

methylene chloride is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
 Australian Inventory of Industrial Chemicals (AIIC)
 Chemical Footprint Project - Chemicals of High Concern List
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2A: Probably carcinogenic to humans

ethylene glycol monobutyl ether is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
 Australian Inventory of Industrial Chemicals (AIIC)
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

1,1,1,2-tetrafluoroethane is found on the following regulatory lists

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
 Australian Inventory of Industrial Chemicals (AIIC)
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

carbon dioxide is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)
 FEI Equine Prohibited Substances List - Controlled Medication
 FEI Equine Prohibited Substances List (EPSL)

Additional Regulatory Information

Not Applicable

National Inventory Status

| National Inventory | Status |
|---|---|
| Australia - AIIC / Australia Non-Industrial Use | Yes |
| Canada - DSL | Yes |
| Canada - NDSL | No (methylene chloride; ethylene glycol monobutyl ether; 1,1,1,2-tetrafluoroethane; carbon dioxide) |
| China - IECSC | Yes |
| Europe - EINEC / ELINCS / NLP | Yes |
| Japan - ENCS | Yes |
| Korea - KECL | Yes |
| New Zealand - NZIoC | Yes |
| Philippines - PICCS | Yes |
| USA - TSCA | All chemical substances in this product have been designated as TSCA Inventory 'Active' |
| Taiwan - TCSI | Yes |
| Mexico - INSQ | Yes |
| Vietnam - NCI | Yes |
| Russia - FBEPH | Yes |
| UAE - Control List (Banned/Restricted Substances) | No (methylene chloride; ethylene glycol monobutyl ether; 1,1,1,2-tetrafluoroethane; carbon dioxide) |
| Legend: | Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration. |

SECTION 16 Other information

| | |
|---------------|------------|
| Revision Date | 10/10/2025 |
| Initial Date | 28/03/2004 |

| Version | Date of Update | Sections Updated |
|---------|----------------|---|
| 20.1 | 04/07/2025 | Classification change due to full database hazard calculation/update. |
| 21.1 | 10/10/2025 | Classification change due to full database hazard calculation/update. |

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
- ▶ ES: Exposure Standard
- ▶ 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
- ▶ DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
- ▶ MARPOL: International Convention for the Prevention of Pollution from Ships
- ▶ IMSBC: International Maritime Solid Bulk Cargoes Code
- ▶ IGC: International Gas Carrier Code
- ▶ IBC: International Bulk Chemical Code
- ▶ AIIC: Australian Inventory of Industrial Chemicals
- ▶ DSL: Domestic Substances List
- ▶ NDSL: Non-Domestic Substances List
- ▶ IECSC: Inventory of Existing Chemical Substance in China
- ▶ EINECS: European INventory of Existing Commercial chemical Substances
- ▶ ELINCS: European List of Notified Chemical Substances
- ▶ NLP: No-Longer Polymers
- ▶ ENCS: Existing and New Chemical Substances Inventory
- ▶ KECI: Korea Existing Chemicals Inventory
- ▶ NZIoC: New Zealand Inventory of Chemicals
- ▶ PICCS: Philippine Inventory of Chemicals and Chemical Substances
- ▶ TSCA: Toxic Substances Control Act
- ▶ TCSI: Taiwan Chemical Substance Inventory
- ▶ INSQ: Inventario Nacional de Sustancias Químicas
- ▶ NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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