

GRP Spray Gun Cleaner

Spray Shop Supplies Pty Ltd

Chemwatch: 60877

Version No: 6.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 3

Issue Date: 13/03/2019

Print Date: 27/05/2019

S.GHS.AUS.EN

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

Product Identifier

Product name	GRP Universal Gun Clean
Synonyms	Not Available
Proper shipping name	TOXIC LIQUID, ORGANIC, N.O.S. (contains methylene chloride)
Other means of identification	Not Available

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

Relevant identified uses	Use according to manufacturer's directions. 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. For removing dried paint and varnish from spray guns.
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Details of the supplier of the safety data sheet

Registered company name	Spray Shop Supplies Pty Ltd
Address	38 Cyber Loop Dandenong South VIC 3175 Australia
Telephone	+61 3 9799 2007 (8am-4:30pm, Monday - Friday)
Fax	N/A
Website	www.sprayshopsupplies.com.au
Email	orders@sprayshopsupplies.com.au

Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	+61 3 9457 1125 (8am-5pm, Monday - Friday)
Other emergency telephone numbers	13 11 26 (After hours)


SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

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

Poisons Schedule	S6
Classification ^[1]	Acute Toxicity (Oral) Category 3, Acute Toxicity (Dermal) Category 3, Acute Toxicity (Inhalation) Category 3, Skin Corrosion/Irritation Category 2, Carcinogenicity Category 2, Specific target organ toxicity - single exposure Category 1, Chronic Aquatic Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)	
SIGNAL WORD	DANGER

Hazard statement(s)

H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H315	Causes skin irritation.

Continued...

H351	Suspected of causing cancer.
H370	Causes damage to organs.
H412	Harmful to aquatic life with long lasting effects.

Supplementary statement(s)**GSB Spray Gun Cleaner**

Not Applicable

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P273	Avoid release to the environment.

Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P307+P311	IF exposed: Call a POISON CENTER or doctor/physician.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P330	Rinse mouth.
P362	Take off contaminated clothing and wash before reuse.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P311	Call a POISON CENTER or doctor/physician.
P332+P313	If skin irritation occurs: Get medical advice/attention.

Precautionary statement(s) Storage

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
75-09-2	>60	<u>methylene chloride</u>
67-56-1	10-<30	<u>methanol</u>
64742-94-5	<10	<u>solvent naphtha petroleum, heavy aromatic</u>
78-93-3	<10	<u>methyl ethyl ketone</u>
Not Available	<10	surfactants
1336-21-6	NotSpec	<u>ammonia</u>

SECTION 4 FIRST AID MEASURES**Description of first aid measures**

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Immediately hold eyelids apart and flush the eye continuously with running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▶ Transport to hospital or doctor without delay. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> ▶ Quickly but gently, wipe material off skin with a dry, clean cloth. ▶ Immediately remove all contaminated clothing, including footwear. ▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. ▶ Transport to hospital, or doctor.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes or combustion products are inhaled remove from contaminated area. ▶ Lay patient down. Keep warm and rested. ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▶ Transport to hospital, or doctor, without delay.

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Ingestion	<ul style="list-style-type: none"> ▶ IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY. ▶ For advice, contact a Poisons Information Centre or a doctor. ▶ Urgent hospital treatment is likely to be needed. ▶ In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition. ▶ If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist. ▶ If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS. <p>Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:</p> <ul style="list-style-type: none"> ▶ INDUCE vomiting with fingers down the back of the throat ONLY IF CONSCIOUS Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. <p>NOTE: Wear a protective glove when inducing vomiting by mechanical means.</p> <ul style="list-style-type: none"> ▶ Avoid giving milk or oils. ▶ Avoid giving alcohol.
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Indication of any immediate medical attention and special treatment needed

Treat symptomatically. 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 microgm/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 **DO NOT** administer sympathomimetic drugs as they may cause ventricular arrhythmias.

For acute and short term repeated exposures to methanol:

▶ Toxicity results from accumulation of formaldehyde/formic acid.

▶ Clinical signs are usually limited to CNS, eyes and GI tract Severe metabolic acidosis may produce dyspnea and profound systemic effects which may become intractable. All symptomatic patients should have arterial pH measured. Evaluate airway, breathing and circulation.

▶ Stabilise obtunded patients by giving naloxone, glucose and thiamine.

▶ Decontaminate with Ipecac or lavage for patients presenting 2 hours post-ingestion. Charcoal does not absorb well; the usefulness of cathartic is not established.

▶ Forced diuresis is not effective; haemodialysis is recommended where peak methanol levels exceed 50 mg/dL (this correlates with serum bicarbonate levels below 18 meq/L).

▶ Ethanol, maintained at levels between 100 and 150 mg/dL, inhibits formation of toxic metabolites and may be indicated when peak methanol levels exceed 20 mg/dL. An intravenous solution of ethanol in D5W is optimal.

▶ Folate, as leucovorin, may increase the oxidative removal of formic acid. 4-methylpyrazole may be an effective adjunct in the treatment. 8-Phenytoin may be preferable to diazepam for controlling seizure.

[Ellenhorn Barceloux: Medical Toxicology]

BIOLOGICAL EXPOSURE INDEX - BEI

Determinant	Index	Sampling Time	Comment
1. Methanol in urine	15 mg/l	End of shift	B, NS
2. Formic acid in urine	80 mg/gm creatinine	Before the shift at end of workweek	B, NS

B: Background levels occur in specimens collected from subjects **NOT** exposed.

NS: Non-specific determinant - observed following exposure to other materials.

For acute or short term repeated exposures to ammonia and its solutions:

- ▶ Mild to moderate inhalation exposures produce headache, cough, bronchospasm, nausea, vomiting, pharyngeal and retrosternal pain and conjunctivitis. Severe inhalation produces laryngospasm, signs of upper airway obstruction (stridor, hoarseness, difficulty in speaking) and, in excessively, high doses, pulmonary oedema.
- ▶ Warm humidified air may soothe bronchial irritation.
- ▶ Test all patients with conjunctival irritation for corneal abrasion (fluorescein stain, slit lamp exam)
- ▶ Dyspneic patients should receive a chest X-ray and arterial blood gases to detect pulmonary oedema.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

- ▶ Water spray or fog.
- ▶ Alcohol stable foam.
- ▶ Dry chemical powder.
- ▶ Carbon dioxide.

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
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Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear full body protective clothing with breathing apparatus. ▶ Prevent, by any means available, spillage from entering drains or water course. ▶ Use fire fighting procedures suitable for surrounding 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 flammable liquid. ▶ However vapour will burn when in contact with high temperature flame. ▶ Ignition ceases on removal of flame. ▶ May form a flammable / explosive mixture in an oxygen enriched atmosphere ▶ Heating may cause expansion/vapourisation with violent rupture of containers ▶ Decomposes on heating and produces corrosive fumes of hydrochloric acid, carbon monoxide and small amounts of toxic phosgene. <p>Combustion products include: carbon dioxide (CO2) formaldehyde hydrogen chloride phosgene other pyrolysis products typical of burning organic material.</p> <p>Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions. May emit poisonous fumes.</p>
HAZCHEM	2X

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"> ▶ Remove all ignition sources. ▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes. ▶ Control personal contact with the substance, by using protective equipment. ▶ Contain and absorb spill with sand, earth, inert material or vermiculite. ▶ Wipe up. ▶ Place in a suitable, labelled container for waste disposal.
Major Spills	<ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear full body protective clothing with breathing apparatus. ▶ Prevent, by any means available, spillage from entering drains or water course. ▶ Stop leak if safe to do so. ▶ Contain spill with sand, earth or vermiculite. ▶ Collect recoverable product into labelled containers for recycling. ▶ Neutralise/decontaminate residue (see Section 13 for specific agent). ▶ Collect solid residues and seal in labelled drums for disposal. ▶ Wash area and prevent runoff into drains. ▶ After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using. ▶ If contamination of drains or waterways occurs, advise emergency services.

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

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SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	<p>Contains low boiling substance: Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately.</p> <ul style="list-style-type: none"> ▶ Check for bulging containers. ▶ Vent periodically ▶ Always release caps or seals slowly to ensure slow dissipation of vapours ▶ DO NOT allow clothing wet with material to stay in contact with skin ▶ Electrostatic discharge may be generated during pumping - this may result in fire. ▶ Ensure electrical continuity by bonding and grounding (earthing) all equipment. ▶ Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<=1 m/sec until fill pipe submerged to twice its diameter, then <= 7 m/sec). ▶ Avoid splash filling. ▶ Do NOT use compressed air for filling discharging or handling operations. ▶ 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. ▶ DO NOT allow material to contact humans, exposed food or food utensils. ▶ Avoid contact with incompatible materials. ▶ When handling DO NOT eat, drink or smoke. ▶ Keep containers securely sealed when not in use.
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Other information	<ul style="list-style-type: none"> ▶ Avoid physical damage to containers. ▶ Always wash hands with soap and water after handling. ▶ Work clothes should be laundered separately. Launder contaminated clothing before re-use. ▶ 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. <ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed. ▶ Store in a cool, dry, well-ventilated area. ▶ Store away from incompatible materials and foodstuff containers. ▶ Protect containers against physical damage and check regularly for leaks. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS. Store below 40 deg. C
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Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> ▶ DO NOT use aluminium or galvanised containers ▶ Lined metal can, lined metal pail/ can. ▶ Plastic pail. ▶ Polyliner drum. ▶ Packing as recommended by manufacturer. ▶ Check all containers are clearly labelled and free from leaks. <p>For low viscosity materials</p> <ul style="list-style-type: none"> ▶ Drums and jerricans must be of the non-removable head type. ▶ Where a can is to be used as an inner package, the can must have a screwed enclosure. <p>For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):</p> <ul style="list-style-type: none"> ▶ Removable head packaging: ▶ Cans with friction closures and ▶ low pressure tubes and cartridges <p>may be used.</p> <p>-</p> <p>Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in contact with inner and outer packages *.</p> <p>-</p> <p>In addition, where inner packagings are glass and contain liquids of packing group I and II there must be sufficient inert absorbent to absorb any spillage *.</p> <p>* unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.</p>
Storage incompatibility	<p>Methylene chloride ▶ is a combustible liquid under certain circumstances even though there is no measurable flash point and it is difficult to ignite ▶ its is flammable in ambient air in the range 12-23%; increased oxygen content can greatly enhance fire and explosion potential ▶ contact with hot surfaces and elevated temperatures can form fumes of hydrogen chloride and phosgene ▶ reacts violently with active metals, aluminium, lithium, methanol,, peroxydisulphuryl difluoride, potassium, potassium tert-butoxide, sodium</p> <ul style="list-style-type: none"> ▶ forms explosive mixtures with nitric acid ▶ is incompatible with strong oxidisers, strong caustics, alkaline earths and alkali metals ▶ attacks some plastics, coatings and rubber ▶ may generate electrostatic charge due to low conductivity ▶ <p>Avoid storage with reducing agents.</p> <ul style="list-style-type: none"> ▶ Segregate from alcohol, water.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Appropriate engineering	For potent pharmacological agents:
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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 Exposure Standards	methanol	Methyl alcohol	200 ppm / 262 mg/m3	328 mg/m3 / 250 ppm	Not Available	Not Available
Australia Exposure Standards	methyl ethyl ketone	Methyl ethyl ketone (MEK)	150 ppm / 445 mg/m3	890 mg/m3 / 300 ppm	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
methylene chloride	Methylene chloride; (Dichloromethane)	Not Available	Not Available	Not Available
methanol	Methyl alcohol; (Methanol)	Not Available	Not Available	Not Available
methyl ethyl ketone	Butanone, 2-; (Methyl ethyl ketone; MEK)	Not Available	Not Available	Not Available
ammonia	Ammonium hydroxide	61 ppm	330 ppm	2,300 ppm

Ingredient	Original IDLH	Revised IDLH
methylene chloride	2,300 ppm / 2,000 ppm	Not Available
methanol	6,000 ppm	Not Available
solvent naphtha petroleum, heavy aromatic	Not Available	Not Available
methyl ethyl ketone	3,000 ppm	Not Available
ammonia	Not Available	Not Available

Exposure controls

controls	<p>Solutions Handling:</p> <ul style="list-style-type: none"> ▶ Solutions can be handled outside a containment system or without local exhaust ventilation during procedures with no potential for aerosolisation. If the procedures have a potential for aerosolisation, an air-purifying respirator is to be worn by all personnel in the immediate area. ▶ Solutions used for procedures where aerosolisation may occur (e.g., vortexing, pumping) are to be handled within a containment system or with local exhaust ventilation. ▶ In situations where this is not feasible (may include animal dosing), an air-purifying respirator is to be worn by all personnel in the immediate area. If using a ventilated enclosure that has not been validated, wear a half-mask respirator equipped with HEPA cartridges until the enclosure is validated for use. ▶ Ensure gloves are protective against solvents in use. <p>Unless written procedures, specific to the workplace are available, the following is intended as a guide:</p> <ul style="list-style-type: none"> ▶ For Laboratory-scale handling of Substances assessed to be toxic by inhalation. Quantities of up to 25 grams may be handled in Class II biological safety cabinets *; Quantities of 25 grams to 1 kilogram may be handled in Class II biological safety cabinets* or equivalent containment systems; Quantities exceeding 1 kg may be handled either using specific containment, a hood or Class II biological safety cabinet*, ▶ HEPA terminated local exhaust ventilation should be considered at point of generation of dust, fumes or vapours. ▶ The need for respiratory protection should also be assessed where incidental or accidental exposure is anticipated. Dependent on levels of contamination, PAPR, full face air purifying devices with P2 or P3 filters or air supplied respirators should be evaluated. When handling: Quantities of up to 25 grams, an approved respirator with HEPA filters or cartridges should be considered; Quantities of 25 grams to 1 kilogram, a half-face negative pressure, full negative pressure, or powered helmet-type air purifying respirator should be considered. Quantities in excess of 1 kilogram, a full face negative pressure, helmet-type air purifying, or supplied air respirator should be considered. <p>Written procedures, specific to a particular work-place, may replace these recommendations</p> <p>* For Class II Biological Safety Cabinets, Types B2 or B3 should be considered. Where only Class I, open fronted Cabinets are available, glove panels may be added, Laminar flow cabinets do not provide sufficient protection when handling these materials unless especially designed to do so.</p> <p>Pilot Plant and Production</p> <ul style="list-style-type: none"> ▶ Wear appropriate gloves; lab coat, nylon coveralls or disposable Tyvek suit; safety glasses, safety shoes, and disposable booties. Use good manufacturing practices (i.e., cGMPs). ▶ Protective garment (coveralls, Tyvek, lab coat) is not to be worn outside the work area. ▶ Clean/dirty/decontamination areas are to be established. ▶ Negative/positive air pressure relationships and buffer zones required (i.e., ante-room/degowning room/airlock). ▶ Area access is to be restricted. ▶ High-energy operations such as milling, particle sizing, spraying or fluidising should be done within an approved emission control or containment system. ▶ Develop cleaning procedures and techniques that limit potential exposure
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Chemical goggles. ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed

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	<p>in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]</p>
Skin protection	<p>See Hand protection below</p>
Hands/feet protection	<ul style="list-style-type: none"> ▶ Wear chemical protective gloves, e.g. PVC. ▶ Wear safety footwear or safety gumboots, e.g. Rubber <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p> <p>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p> <ul style="list-style-type: none"> - frequency and duration of contact, - chemical resistance of glove material, - glove thickness and - dexterity <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> <ul style="list-style-type: none"> - When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. - When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. - Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use. - Contaminated gloves should be replaced. <p>As defined in ASTM F-739-96 in any application, gloves are rated as:</p> <ul style="list-style-type: none"> - Excellent when breakthrough time > 480 min - Good when breakthrough time > 20 min - Fair when breakthrough time < 20 min - Poor when glove material degrades <p>For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.</p> <p>It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.</p> <p>Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.</p> <p>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:</p> <ul style="list-style-type: none"> - Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of. - Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential <p>Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is</p>

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	recommended.
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Overalls. ▶ Eyewash unit. ▶ Barrier cream. ▶ Skin cleansing cream.

Respiratory protection

Type KAX-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Yellow liquid with a characteristic pungent odour; not miscible with water.		
Physical state	Liquid	Relative density (Water = 1)	1.02
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	33-102	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)	>90
Vapour pressure (kPa)	50 @ 20 C	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	2.9	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. ▶ Hazardous polymerisation will not occur. Odour Safety Factor(OSF) OSF=2
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

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SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	<p>There is strong evidence to suggest that this material can cause, if inhaled once, serious, irreversible damage of organs.</p> <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>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 hazard is increased at higher temperatures.</p> <p>Minor but regular methanol exposures may effect the central nervous system, optic nerves and retinae. Symptoms may be delayed, with headache, fatigue, nausea, blurring of vision and double vision. Continued or severe exposures may cause damage to optic nerves, which may become severe with permanent visual impairment even blindness resulting.</p> <p>WARNING: Methanol is only slowly eliminated from the body and should be regarded as a cumulative poison which cannot be made non-harmful [CCINFO]</p> <p>Acute intoxication by halogenated aliphatic hydrocarbons appears to take place over two stages. Signs of a reversible narcosis are evident in the first stage and in the second stage signs of injury to organs may become evident, a single organ alone is (almost) never involved.</p> <p>The highly irritant properties of ammonia vapour result as the gas dissolves in mucous fluids and forms irritant, even corrosive solutions.</p> <p>Inhalation of the ammonia fumes causes coughing, vomiting, reddening of lips, mouth, nose, throat and conjunctiva while higher concentrations can cause</p>				
	<p>temporary blindness, restlessness, tightness in the chest, pulmonary oedema (lung damage), weak pulse and cyanosis.</p> <p>Inhalation of high concentrations of vapour may cause breathing difficulty, tightness in chest, pulmonary oedema and lung damage. Brief exposure to high concentrations > 5000 ppm may cause death due to asphyxiation (suffocation) or fluid in the lungs.</p> <p>Prolonged or regular minor exposure to the vapour may cause persistent irritation of the eyes, nose and upper respiratory tract. Massive ammonia exposures may produce chronic airway hyperactivity and asthma with associated pulmonary function changes. The average nasal retention of ammonia by human subjects was found to be 83%.</p> <p>Depression of the central nervous system is the most outstanding effect of most halogenated aliphatic hydrocarbons. Inebriation and excitation, passing into narcosis, is a typical reaction. In severe acute exposures there is always a danger of death from respiratory failure or cardiac arrest due to a tendency to make the heart more susceptible to catecholamines (adrenalin)</p> <p>Acute exposure of humans to high concentrations of methyl ethyl ketone produces irritation to the eyes, nose and throat. Acute exposure by inhalation also causes nervous system depression, headache, and nausea. High vapour levels are easily detected due to odour, however odour fatigue may occur, with loss of warning of exposure.</p> <p>Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may produce toxic effects; these may be fatal.</p> <p>Inhalation exposure may cause susceptible individuals to show change in heart beat rhythm i.e. cardiac arrhythmia. Exposures must be terminated.</p>				
Ingestion	<p>Strong evidence exists that exposure to the material may cause irreversible damage (other than cancer, mutations and birth defects) following a single exposure by swallowing.</p> <p>Toxic effects may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 40 gram may be fatal or may produce serious damage to the health of the individual.</p> <p>Methanol may produce a burning or painful sensation in the mouth, throat, chest, and stomach. This may be accompanied by nausea, vomiting, headache, dizziness, shortness of breath, weakness, fatigue, leg cramps, restlessness, confusion, drunken behaviour, visual disturbance, drowsiness, coma and death.</p>				
Skin Contact	<p>There is strong evidence to suggest that this material, on a single contact with skin, can cause serious, irreversible damage of organs.</p> <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>Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> <p>Skin contact with the material may produce toxic effects; systemic effects may result following absorption.</p>				
Eye	<p>510meth</p> <p>Direct eye contact with petroleum hydrocarbons can be painful, and the corneal epithelium may be temporarily damaged. Aromatic species can cause irritation and excessive tear secretion.</p> <p>This 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>				
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. There is some evidence from animal testing that exposure to this material may result in reduced fertility.</p> <p>Long-term exposure to methanol vapour, at concentrations exceeding 3000 ppm, may produce cumulative effects characterised by gastrointestinal disturbances (nausea, vomiting), headache, ringing in the ears, insomnia, trembling, unsteady gait, vertigo, conjunctivitis and clouded or double vision.</p> <p>Liver and/or kidney injury may also result.</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>				
Cam Spray Gun Cleaner	<table border="1"> <thead> <tr> <th data-bbox="384 1816 935 1861">TOXICITY</th> <th data-bbox="935 1816 1495 1861">IRRITATION</th> </tr> </thead> <tbody> <tr> <td data-bbox="384 1861 935 1946">Not Available</td> <td data-bbox="935 1861 1495 1946">Not Available</td> </tr> </tbody> </table>	TOXICITY	IRRITATION	Not Available	Not Available
TOXICITY	IRRITATION				
Not Available	Not Available				

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	TOXICITY	IRRITATION
methylene chloride	dermal (rat) LD50: >2000 mg/kg ^[2]	Eye(rabbit): 162 mg - moderate
	Inhalation (rat) LC50: 76 mg/l/4h ^[2]	Eye(rabbit): 500 mg/24hr - mild
	Oral (rat) LD50: 985 mg/kg ^[2]	Skin (rabbit): 100mg/24hr-moderate Skin (rabbit): 810 mg/24hr-SEVERE
methanol	Dermal (rabbit) LD50: 15800 mg/kg ^[2]	Eye (rabbit): 100 mg/24h-moderate
	Inhalation (rat) LC50: 36208.63875 mg/l/4h ^[2]	Eye (rabbit): 40 mg-moderate
	Oral (rat) LD50: =5300 mg/kg ^[2]	Eye: no adverse effect observed (not irritating) ^[1] Skin (rabbit): 20 mg/24 h-moderate Skin: no adverse effect observed (not irritating) ^[1]
solvent naphtha petroleum, heavy aromatic	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit): Irritating
	Inhalation (rat) LC50: >0.59 mg/l/4h ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
	Oral (rat) LD50: >2000 mg/kg ^[1]	Skin: adverse effect observed (irritating) ^[1]
methyl ethyl ketone	Dermal (rabbit) LD50: ~6400-8000 mg/kg ^[2]	Eye (human): 350 ppm -irritant
	Inhalation (rat) LC50: 47 mg/l/8h ^[2]	Eye (rabbit): 80 mg - irritant
	Oral (rat) LD50: 2054 mg/kg ^[1]	Skin (rabbit): 402 mg/24 hr - mild Skin (rabbit):13.78mg/24 hr open
ammonia	Inhalation (rat) LC50: 1997.718 mg/l/4h ^[2]	Eye (rabbit): 0.25 mg SEVERE
	Oral (rat) LD50: 350 mg/kg ^[2]	Eye (rabbit): 1 mg/30s SEVERE

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	WARNING: This substance has been classified by the IARC as Group 2A: Probably Carcinogenic to Humans. Inhalation (human) TCLo: 500 ppm/ 1 y - I Eye(rabbit): 10 mg - mild
SOLVENT NAPHTHA PETROLEUM, HEAVY AROMATIC	Animal studies indicate that normal, branched and cyclic paraffins are absorbed from the gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length, with little absorption above C30. With respect to the carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent than iso- or cyclo-paraffins. The major classes of hydrocarbons are well absorbed into the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with fats in the diet. Some hydrocarbons may appear unchanged as in the lipoprotein particles in the gut lymph, but most hydrocarbons partly separate from fats and undergo metabolism in the gut cell. The gut cell may play a major role in determining the proportion of hydrocarbon that becomes available to be deposited unchanged in peripheral tissues such as in the body fat stores or the liver. For petroleum: This product contains benzene, which can cause acute myeloid leukaemia, and n-hexane, which can be metabolized to compounds which are toxic to the nervous system. This product contains toluene, and animal studies suggest high concentrations of toluene lead to hearing loss. This product contains ethyl benzene and naphthalene, from which animal testing shows evidence of tumour formation. Cancer-causing potential: Animal testing shows inhaling petroleum causes tumours of the liver and kidney; these are however not considered to be relevant in humans. Mutation-causing potential: Most studies involving gasoline have returned negative results regarding the potential to cause mutations, including all recent studies in living human subjects (such as in petrol service station attendants). Reproductive toxicity: Animal studies show that high concentrations of toluene (>0.1%) can cause developmental effects such as lower birth weight and developmental toxicity to the nervous system of the foetus. Other studies show no adverse effects on the foetus. Human effects: Prolonged or repeated contact may cause defatting of the skin which can lead to skin inflammation and may make the skin more susceptible to irritation and penetration by other materials. Animal testing shows that exposure to gasoline over a lifetime can cause kidney cancer, but the relevance in humans is questionable.

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METHYL ETHYL KETONE	Methyl ethyl ketone is considered to have a low order of toxicity; however, methyl ethyl ketone is often used in combination with other solvents and the mixture may have greater toxicity than either solvent alone. Combinations of n-hexane with methyl ethyl ketone, and also methyl n-butyl ketone with methyl ethyl ketone may result in an increased in peripheral neuropathy, a progressive disorder of the nerves of the extremities. Combinations with chloroform also show an increase in toxicity.		
AMMONIA	No significant acute toxicological data identified in literature search. The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.		
Cam Spray Gun Cleaner & 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.		
METHANOL & METHYL ETHYL KETONE	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.		
METHYL ETHYL KETONE & AMMONIA	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.		
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

Cam Spray Gun Cleaner					
	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Available	Available	Available
methylene chloride	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	=13.1mg/L	1
	EC50	48	Crustacea	1-682mg/L	2
	EC50	96	Algae or other aquatic plants	161.874mg/L	3
	NOEC	96	Algae or other aquatic plants	56mg/L	4

Continued...

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	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
methanol	LC50	96	Fish	11-850mg/L	2
	EC50	48	Crustacea	>10-mg/L	2
	EC50	96	Algae or other aquatic plants	16.912mg/L	4
	BCF	24	Algae or other aquatic plants	0.05mg/L	4
	EC0	48	Crustacea	>10-mg/L	2
	NOEC	72	Crustacea	0.1mg/L	4
solvent naphtha petroleum, heavy aromatic	LC50	96	Fish	0.58mg/L	2
	EC50	48	Crustacea	0.76mg/L	2
	EC50	72	Algae or other aquatic plants	<1mg/L	1
	NOEC	96	Algae or other aquatic plants	0.12mg/L	2
methyl ethyl ketone	LC50	96	Fish	2-993mg/L	2
	EC50	48	Crustacea	5-91mg/L	2
	EC50	72	Algae or other aquatic plants	1-972mg/L	2
	EC0	96	Fish	1-848mg/L	2
	NOEC	96	Fish	1-170mg/L	2
ammonia	LC50	96	Fish	15mg/L	4
	NOEC	72	Fish	3.5mg/L	4

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

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

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

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

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.

For Methyl Ethyl Ketone:

log Kow: 0.26-0.69;

log Koc: 0.69;

Koc: 34;

Half-life (hr) air: 2.3;

Half-life (hr) H₂O surface water: 72-288;

Henry's atm m³/mol: 1.05E-05;

BOD 5: 1.5-2.24,

46%; COD: 2.2-2.31,

100%; ThOD: 2.44;

BCF: 1.

Environmental Fate: Terrestrial Fate - Measured Koc values of 29 and 34 were obtained for methyl ethyl ketone in silt loams. Methyl ethyl ketone is expected to have very high mobility in soil. Volatilization of methyl ethyl ketone from moist and dry soil surfaces is expected. The volatilization half-life of methyl ethyl ketone from silt and sandy loams was measured as 4.9 days. Methyl ethyl ketone is expected to biodegrade under both aerobic and anaerobic conditions.

Aquatic Fate: Methyl ethyl ketone is not expected to adsorb to suspended solids and sediment in water and is expected to volatilize from water surfaces. Estimated half-lives for a model river and model lake are 19 and 197, hours respectively. Bioconcentration is expected to be low in aquatic systems.

Atmospheric Fate: Methyl ethyl ketone will exist solely as a vapour in the ambient atmosphere. Vapour-phase methyl ethyl ketone is degraded in the atmosphere by reaction with photochemically produced hydroxyl radicals; the half-life for this reaction in air is estimated to be about 14 days. Methyl ethyl ketone is also expected to undergo photodecomposition in the atmosphere by natural sunlight.

Ecotoxicity: Methyl ethyl ketone is not acutely toxic to fish, specifically, bluegill sunfish, guppy, goldfish, fathead minnow, mosquito fish, Daphnia magna water fleas and brine shrimp. For Ketones: Ketones, unless they are alpha, beta-unsaturated ketones, can be considered as narcosis or baseline toxicity compounds.

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Aquatic Fate: Hydrolysis of ketones in water is thermodynamically favourable only for low molecular weight ketones. Reactions with water are reversible with no permanent change in the structure of the ketone substrate. Ketones are stable to water under ambient environmental conditions. When pH levels are greater than 10, condensation reactions can occur which produce higher molecular weight products. Under ambient conditions of temperature, pH, and low concentration, these condensation reactions are unfavourable. Based on its reactions in air, it seems likely that ketones undergo photolysis in water.

Terrestrial Fate: It is probable that ketones will be biodegraded by micro-organisms in soil and water.

Ecotoxicity: Ketones are unlikely to bioconcentrate or biomagnify. For Ammonia:

Atmospheric Fate: Ammonia reacts rapidly with available acids (mainly sulfuric, nitric, and sometimes hydrochloric acid) to form the corresponding salts. Ammonia is persistent in the air.

Aquatic Fate: Biodegrades rapidly to nitrate, producing a high oxygen demand. Non-persistent in water (half-life 2 days).

Ecotoxicity: Moderately toxic to fish under normal temperature and pH conditions and harmful to aquatic life at low concentrations. Does not concentrate in food chain. Drinking Water Standards: hydrocarbon total: 10 ug/l (UK max.).

For Methanol: Log Kow: -0.82 to -0.66; Koc: 1; Henrys Law Constant: 4.55x10⁻⁶ atm-cu m/mole; Vapor Pressure: 127 mm Hg; BCF: < 10.

Atmospheric Fate: Methanol is expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase methanol is broken down in the atmosphere by reactions with hydroxyl radicals; the half-life for this reaction in air is estimated to be 17 days.

Terrestrial Fate: Methanol is expected to have very high mobility in soil. Evaporation of methanol from moist/dry soil surfaces is expected to be an important fate process. Biological breakdown in soil is expected to be an important fate process for methanol based on half-lives of 1 day, in sandy silt loam, and 3.2 days in sandy loam.

Aquatic Fate: Methanol is not expected to adsorb to suspended solids and sediment and the substance mixes in water. The substance is expected to evaporate from water surfaces with half-lives, for a model river, of 3 days, and 35 days, for a model lake. Concentration of the substance in aquatic organisms is expected to be low. Breakdown by water and sunlight are not expected to be an important environmental fate processes. The substance is expected to be broken down by microorganisms in water.

Ecotoxicity: Methanol is non-toxic to fish, including fathead minnow, rainbow trout, bluegill sunfish, and guppy. The substance is also non-toxic to aquatic invertebrates, including Daphnia pulex water fleas, brine and brown shrimp. The substances are non-toxic to shellfish, including mussels, marine bacterium, including Photobacterium phosphoreum, and the protozoan Tetrahymena pyriformis.

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)
methanol	LOW	LOW
methyl ethyl ketone	LOW (Half-life = 14 days)	LOW (Half-life = 26.75 days)

Bioaccumulative potential

Ingredient	Bioaccumulation
methylene chloride	LOW (BCF = 40)
methanol	LOW (BCF = 10)
solvent naphtha petroleum, heavy aromatic	LOW (BCF = 159)
methyl ethyl ketone	LOW (LogKOW = 0.29)

Mobility in soil

Ingredient	Mobility
methylene chloride	LOW (KOC = 23.74)
methanol	HIGH (KOC = 1)
methyl ethyl ketone	MEDIUM (KOC = 3.827)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> ▶ Containers may still present a chemical hazard/ danger when empty. ▶ Return to supplier for reuse/ recycling if possible. <p>Otherwise:</p> <ul style="list-style-type: none"> ▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. ▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product. <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> ▶ Reduction ▶ Reuse ▶ Recycling ▶ Disposal (if all else fails) <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate. ▶ DO NOT allow wash water from cleaning or process equipment to enter drains.</p> <ul style="list-style-type: none"> ▶ 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. ▶ Recycle wherever possible or consult manufacturer for recycling options. ▶ Consult State Land Waste Authority for disposal. ▶ Bury or incinerate residue at an approved site. ▶ Recycle containers if possible, or dispose of in an authorised landfill.
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SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	NO Not Applicable
HAZCHEM	2X

Land transport (ADG)

UN number	2810
UN proper shipping name	TOXIC LIQUID, ORGANIC, N.O.S. (contains methylene chloride)
Transport hazard class(es)	Class : 6.1 Subrisk : Not Applicable
Packing group	III
Environmental hazard	Not Applicable
Special precautions for user	Special provisions : 223 274 Limited quantity : 5 L

Air transport (ICAO-IATA / DGR)

UN number	2810
UN proper shipping name	Toxic liquid, organic, n.o.s. * (contains methylene chloride)
Transport hazard class(es)	ICAO/IATA Class : 6.1 ICAO / IATA Subrisk : Not Applicable ERG Code : 6L
Packing group	III
Environmental hazard	Not Applicable
Special precautions for user	Special provisions : A3 A4 A137 Cargo Only Packing Instructions : 663 Cargo Only Maximum Qty / Pack : 220L Passenger and Cargo Packing Instructions : 655 Passenger and Cargo Maximum Qty / Pack : 60L Passenger and Cargo Limited Quantity Packing Instructions Y642 Passenger and Cargo Limited Maximum Qty / Pack : 2 L

Sea transport (IMDG-Code / GGVSee)

UN number	2810
UN proper shipping name	TOXIC LIQUID, ORGANIC, N.O.S. (contains methylene chloride)
Transport hazard class(es)	IMDG Class : 6.1 IMDG Subrisk : Not Applicable
Packing group	III
Environmental hazard	Not Applicable
Special precautions for user	EMS Number : F-A , S-A Special provisions : 223 274 Limited Quantities : 5 L

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

Not Applicable

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SECTION 15 REGULATORY INFORMATION

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

METHYLENE CHLORIDE(75-09-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes	GESAMP/EHS Composite List - GESAMP Hazard Profiles
Australia Exposure Standards	IMO IBC Code Chapter 17: Summary of minimum requirements
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
Australia Inventory of Chemical Substances (AICS)	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC E (Part 2) Monographs
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix	International Air Transport Association (IATA) Dangerous Goods Regulations F (Part 3) International Maritime Dangerous Goods Requirements (IMDG Code)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Part 2, Section Seven - Appendix I	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)

METHANOL(67-56-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List	GESAMP/EHS Composite List - GESAMP Hazard Profiles
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes	IMDG Code - Medical First Aid Guide for use in accidents involving Dangerous Goods (MFAG) - Appendix 15 List Of Substances
Australia Exposure Standards	IMO IBC Code Chapter 17: Summary of minimum requirements
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
Australia Inventory of Chemical Substances (AICS)	IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix	IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances containing at least 99% by weight of components already assessed by IMO
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix	International Maritime Dangerous Goods Requirements (IMDG Code)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule (English) 6	

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List

SOLVENT NAPHTHA PETROLEUM, HEAVY AROMATIC(64742-94-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes
International Air Transport Association (IATA) Dangerous Goods Regulations	International Maritime Dangerous Goods Requirements (IMDG Code)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)	Australia Inventory of Chemical Substances (AICS)
	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List

METHYL ETHYL KETONE(78-93-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards	Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes
GESAMP/EHS Composite List - GESAMP Hazard Profiles	IMO IBC Code Chapter 17: Summary of minimum requirements
Australia Inventory of Chemical Substances (AICS)	Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk	International Air Transport Association (IATA) Dangerous Goods Regulations
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)	International Maritime Dangerous Goods Requirements (IMDG Code)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Index	

AMMONIA(1336-21-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List	IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes	International Air Transport Association (IATA) Dangerous Goods Regulations
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	International Maritime Dangerous Goods Requirements (IMDG Code)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Index	Australia Inventory of Chemical Substances (AICS) United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)

National Inventory Status

National Inventory	Status

Continued...

GSB Spray Gun Cleaner

Version No: 6.1.1.1

Print Date: 27/05/2019

Australia - AICS	No (surfactants) Non-disclosed ingredients
Canada - DSL	No (surfactants) Non-disclosed ingredients
Canada - NDSL	No (methanol; ammonia; methylene chloride; solvent naphtha petroleum, heavy aromatic; methyl ethyl ketone; surfactants) Non-disclosed ingredients
China - IECSC	No (surfactants) Non-disclosed ingredients
Europe - EINEC / ELINCS / NLP	No (surfactants) Non-disclosed ingredients
Japan - ENCS	No (solvent naphtha petroleum, heavy aromatic; surfactants) Non-disclosed ingredients
Korea - KECI	No (surfactants) Non-disclosed ingredients
New Zealand - NZIoC	No (surfactants) Non-disclosed ingredients
Philippines - PICCS	No (surfactants) Non-disclosed ingredients
USA - TSCA	No (surfactants) Non-disclosed ingredients
Taiwan - TCSI	No (surfactants) Non-disclosed ingredients
Mexico - INSQ	No (surfactants) Non-disclosed ingredients
Vietnam - NCI	No (surfactants) Non-disclosed ingredients
Russia - ARIPS	No (surfactants) Non-disclosed ingredients
Thailand - TECl	No (solvent naphtha petroleum, heavy aromatic; surfactants) Non-disclosed ingredients
Legend:	<p><i>Yes = All declared ingredients are on the inventory</i></p> <p><i>No = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)</i></p>

GSB Spray Gun Cleaner

SECTION 16 OTHER INFORMATION

Revision Date	13/03/2019
Initial Date	24/11/2003

SDS Version Summary

Version	Issue Date	Sections Updated
5.1.1.1	14/08/2014	Acute Health (eye), Acute Health (skin)
6.1.1.1	13/03/2019	Expiration. Review and Update

Other information

Ingredients with multiple cas numbers

Name	CAS No
solvent naphtha petroleum, heavy aromatic	64742-94-5, 1189173-42-9
ammonia	1336-21-6, 14798-03-9

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

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

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
 PC—STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit,
 IDLH: Immediately Dangerous to Life or Health Concentrations
 OSF: Odour Safety Factor
 NOAEL :No Observed Adverse Effect Level
 LOAEL: Lowest Observed Adverse Effect Level
 TLV: Threshold Limit Value
 LOD: Limit Of Detection
 OTV: Odour Threshold Value
 BCF: BioConcentration Factors
 BEI: Biological Exposure Index

end of SDS