

# FleetGuard Fleet-Tech Microbiocide

## Fleetguard

Chemwatch: 4712-93

Version No: 3.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 3

Issue Date: 27/06/2017

Print Date: 17/01/2018

L.GHS.AUS.EN

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

### Product Identifier

Product name	FleetGuard Fleet-Tech Microbiocide
Synonyms	2661 2662
Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Other means of identification	Not Available

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

Relevant identified uses	Control of bacteria and fungi in liquid hydrocarbon fuels. Use according to manufacturer's directions.
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### Details of the supplier of the safety data sheet

Registered company name	Fleetguard
Address	31 Garden Street Kilsyth VIC 3137 Australia
Telephone	+61 3 9721 9100
Fax	+61 3 9721 9148
Website	Not Available
Email	Not Available

### Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	+61 3 9573 3112
Other emergency telephone numbers	Not Available

## CHEMWATCH EMERGENCY RESPONSE

Primary Number	Alternative Number 1	Alternative Number 2
1800 039 008	1800 039 008	+612 9186 1132

Once connected and if the message is not in your preferred language then please dial 01

## SECTION 2 HAZARDS IDENTIFICATION


### Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification <sup>[1]</sup>	Metal Corrosion Category 1, Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 4, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 1B, Serious Eye Damage Category 1, Skin Sensitizer Category 1, Acute Aquatic Hazard Category 3, Chronic Aquatic Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

### Label elements

Continued...

FleetGuard Fleet-Tech Microbiocide

<b>Hazard pictogram(s)</b>	
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<b>SIGNAL WORD</b>	<b>DANGER</b>
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**Hazard statement(s)**

<b>H290</b>	May be corrosive to metals.
<b>H302</b>	Harmful if swallowed.
<b>H312</b>	Harmful in contact with skin.
<b>H332</b>	Harmful if inhaled.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H317</b>	May cause an allergic skin reaction.
<b>H412</b>	Harmful to aquatic life with long lasting effects.

**Precautionary statement(s) Prevention**

<b>P260</b>	Do not breathe dust/fume/gas/mist/vapours/spray.
<b>P271</b>	Use only outdoors or in a well-ventilated area.
<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection.
<b>P234</b>	Keep only in original container.
<b>P270</b>	Do not eat, drink or smoke when using this product.
<b>P273</b>	Avoid release to the environment.
<b>P272</b>	Contaminated work clothing should not be allowed out of the workplace.

**Precautionary statement(s) Response**

<b>P301+P330+P331</b>	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
<b>P303+P361+P353</b>	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
<b>P305+P351+P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>P310</b>	Immediately call a POISON CENTER or doctor/physician.
<b>P363</b>	Wash contaminated clothing before reuse.
<b>P302+P352</b>	IF ON SKIN: Wash with plenty of soap and water.
<b>P333+P313</b>	If skin irritation or rash occurs: Get medical advice/attention.
<b>P390</b>	Absorb spillage to prevent material damage.
<b>P301+P312</b>	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
<b>P304+P340</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**Precautionary statement(s) Storage**

<b>P405</b>	Store locked up.
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**Precautionary statement(s) Disposal**

<b>P501</b>	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
25265-71-8	88-90	<u>dipropylene glycol</u>
26172-55-4	1.7-1.8	<u>5-chloro-2-methyl-4-isothiazolin-3-one</u>
2682-20-4	1-1.3	<u>2-methyl-4-isothiazolin-3-one</u>

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7786-30-3	0.9-1	<u>magnesium chloride</u>
3344-18-1	0.3-0.4	<u>magnesium citrate</u>
7732-18-5	5-6	<u>water</u>

## SECTION 4 FIRST AID MEASURES

## Description of first aid measures

<b>Eye Contact</b>	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ 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.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately flush body and clothes with large amounts of water, using safety shower if available.</li> <li>▶ Quickly remove all contaminated clothing, including footwear.</li> <li>▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ 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.</li> <li>▶ Transport to hospital, or doctor, without delay.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ For advice, contact a Poisons Information Centre or a doctor at once.</li> <li>▶ Urgent hospital treatment is likely to be needed.</li> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Transport to hospital or doctor without delay.</li> </ul>

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

Treat symptomatically.

For acute or short term repeated exposures to strong acids:

- ▶ Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
- ▶ Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
- ▶ Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- ▶ Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the desiccating action of the acid on proteins in specific tissues.

INGESTION:

- ▶ Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.
- ▶ **DO NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.**
- ▶ Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.
- ▶ Charcoal has no place in acid management.
- ▶ Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN:

- ▶ Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.
- ▶ Deep second-degree burns may benefit from topical silver sulfadiazine.

EYE:

- ▶ Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjunctival cul-de-sacs. Irrigation should last at least 20-30 minutes.
- ▶ **DO NOT use neutralising agents or any other additives.** Several litres of saline are required.
- ▶ Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.
- ▶ Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

[Ellenhorn and Barceloux: Medical Toxicology]

## SECTION 5 FIREFIGHTING MEASURES

## Extinguishing media

Continued...

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

### Special hazards arising from the substrate or mixture

<b>Fire Incompatibility</b>	<ul style="list-style-type: none"> <li>‣ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result</li> </ul>
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### Advice for firefighters

<b>Fire Fighting</b>	<ul style="list-style-type: none"> <li>‣ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>‣ Wear full body protective clothing with breathing apparatus.</li> <li>‣ Prevent, by any means available, spillage from entering drains or water course.</li> <li>‣ Use fire fighting procedures suitable for surrounding area.</li> <li>‣ <b>Do not approach containers suspected to be hot.</b></li> <li>‣ Cool fire exposed containers with water spray from a protected location.</li> <li>‣ If safe to do so, remove containers from path of fire.</li> <li>‣ Equipment should be thoroughly decontaminated after use.</li> </ul>
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>‣ Combustible.</li> <li>‣ Slight fire hazard when exposed to heat or flame.</li> <li>‣ Acids may react with metals to produce hydrogen, a highly flammable and explosive gas.</li> <li>‣ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>‣ On combustion, may emit toxic fumes of carbon monoxide (CO).</li> <li>‣ May emit acrid smoke. May emit corrosive fumes.</li> </ul> <p>Combustion products include:</p> <ul style="list-style-type: none"> <li>‣ carbon dioxide (CO<sub>2</sub>)</li> <li>‣ nitrogen oxides (NO<sub>x</sub>)</li> <li>‣ sulfur oxides (SO<sub>x</sub>)</li> <li>‣ hydrogen chloride</li> <li>‣ other pyrolysis products typical of burning organic material.</li> </ul> <p>May emit corrosive fumes.</p>
<b>HAZCHEM</b>	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

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

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

## SECTION 7 HANDLING AND STORAGE

### Precautions for safe handling

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ <b>WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.</b></li> <li>▶ Avoid smoking, naked lights or ignition sources.</li> <li>▶ Avoid contact with incompatible materials.</li> <li>▶ When handling, <b>DO NOT eat, drink or smoke.</b></li> <li>▶ Keep containers securely sealed when not in use.</li> <li>▶ Avoid physical damage to containers.</li> <li>▶ Always wash hands with soap and water after handling.</li> <li>▶ Work clothes should be laundered separately. Launder contaminated clothing before re-use.</li> <li>▶ Use good occupational work practice.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.</li> <li>▶ <b>DO NOT allow clothing wet with material to stay in contact with skin</b></li> </ul>
<b>Other information</b>	<ul style="list-style-type: none"> <li>▶ Store in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ Store in a cool, dry, well-ventilated area.</li> <li>▶ Store away from incompatible materials and foodstuff containers.</li> <li>▶ Protect containers against physical damage and check regularly for leaks.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul>

### Conditions for safe storage, including any incompatibilities

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ Lined metal can, lined metal pail/ can.</li> <li>▶ Plastic pail.</li> <li>▶ Polyliner drum.</li> <li>▶ Packing as recommended by manufacturer.</li> <li>▶ Check all containers are clearly labelled and free from leaks.</li> </ul> <p>For low viscosity materials</p> <ul style="list-style-type: none"> <li>▶ Drums and jerricans must be of the non-removable head type.</li> <li>▶ Where a can is to be used as an inner package, the can must have a screwed enclosure.</li> </ul> <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"> <li>▶ Removable head packaging;</li> <li>▶ Cans with friction closures and</li> <li>▶ low pressure tubes and cartridges</li> </ul> <p>may be used.</p> <p>-</p> <p>Where combination packages are used, and the inner packages are of glass, porcelain or stoneware, there must be sufficient inert cushioning material in contact with inner and outer packages unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.</p>
<b>Storage incompatibility</b>	<ul style="list-style-type: none"> <li>▶ Avoid reaction with oxidising agents</li> </ul>

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

#### OCCUPATIONAL EXPOSURE LIMITS (OEL)

#### INGREDIENT DATA

Not Available

#### EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
5-chloro-2-methyl-4-isothiazolin-3-one	Chloro-2-methyl-4-isothiazolin-3-one, 5-	0.6 mg/m3	6.6 mg/m3	40 mg/m3
magnesium chloride	Magnesium chloride	11 mg/m3	120 mg/m3	550 mg/m3
magnesium chloride	Magnesium chloride hexahydrate	34 mg/m3	370 mg/m3	1,600 mg/m3

Ingredient	Original IDLH	Revised IDLH
dipropylene glycol	Not Available	Not Available

Continued...

## FleetGuard Fleet-Tech Microbiocide

5-chloro-2-methyl-4-isothiazolin-3-one	Not Available	Not Available
2-methyl-4-isothiazolin-3-one	Not Available	Not Available
magnesium chloride	Not Available	Not Available
magnesium citrate	Not Available	Not Available
water	Not Available	Not Available

## MATERIAL DATA

## 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.</p> <p>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>Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection.</p> <p>An approved self contained breathing apparatus (SCBA) may be required in some situations.</p> <p>Provide adequate ventilation in warehouse or closed storage area. 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>										
	<table border="1"> <thead> <tr> <th>Type of Contaminant:</th> <th>Air Speed:</th> </tr> </thead> <tbody> <tr> <td>solvent, vapours, degreasing etc., evaporating from tank (in still air).</td> <td>0.25-0.5 m/s (50-100 f/min.)</td> </tr> <tr> <td>aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)</td> <td>0.5-1 m/s (100-200 f/min.)</td> </tr> <tr> <td>direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)</td> <td>1-2.5 m/s (200-500 f/min.)</td> </tr> <tr> <td>grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).</td> <td>2.5-10 m/s (500-2000 f/min.)</td> </tr> </tbody> </table>	Type of Contaminant:	Air Speed:	solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min.)	aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)	direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)	grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)
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<p>Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.</p>											

## Personal protection



## Eye and face protection

- ▶ Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure.
- ▶ Chemical goggles whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted.
- ▶ Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes;

	<ul style="list-style-type: none"> <li>▶ these afford face protection.</li> <li>▶ Alternatively a gas mask may replace splash goggles and face shields.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<ul style="list-style-type: none"> <li>▶ Elbow length PVC gloves</li> <li>▶ When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.</li> </ul> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.</li> <li>▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.</li> </ul>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ PVC Apron.</li> <li>▶ PVC protective suit may be required if exposure severe.</li> <li>▶ Eyewash unit.</li> <li>▶ Ensure there is ready access to a safety shower.</li> </ul>
<b>Thermal hazards</b>	Not Available

## 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:

FleetGuard Fleet-Tech Microbiocide

Material	CPI
BUTYL	C
NATURAL RUBBER	C
NEOPRENE	C
PVA	C
VITON	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.

## Respiratory protection

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

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	AK-AUS / Class1 P2	-
up to 50	1000	-	AK-AUS / Class 1 P2
up to 50	5000	Airline *	-
up to 100	5000	-	AK-2 P2
up to 100	10000	-	AK-3 P2
100+			Airline**

\* - Continuous Flow \*\* - Continuous-flow or positive pressure demand  
 A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Appearance</b>	Colourless pale liquid; soluble in water.		
<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	1.044
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available

## FleetGuard Fleet-Tech Microbiocide

<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not Available
<b>pH (as supplied)</b>	4.4	<b>Decomposition temperature</b>	Not Available
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Available
<b>Initial boiling point and boiling range (°C)</b>	229	<b>Molecular weight (g/mol)</b>	Not Applicable
<b>Flash point (°C)</b>	138 PMCC	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Applicable	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Available	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	Not Available	<b>Volatile Component (%vol)</b>	97 VOC
<b>Vapour pressure (kPa)</b>	Not Available	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Miscible	<b>pH as a solution (1%)</b>	Not Available
<b>Vapour density (Air = 1)</b>	0.65	<b>VOC g/L</b>	Not Available

## SECTION 10 STABILITY AND REACTIVITY

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

## SECTION 11 TOXICOLOGICAL INFORMATION

## Information on toxicological effects

<b>Inhaled</b>	<p>Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.</p> <p>Acidic corrosives produce respiratory tract irritation with coughing, choking and mucous membrane damage. Symptoms of exposure may include dizziness, headache, nausea and weakness. In more severe exposures, pulmonary oedema may be evident either immediately or after a latent period of 5-72 hours. Symptoms of pulmonary oedema include a tightness in the chest, dyspnoea, frothy sputum and cyanosis. Examination may reveal hypotension, a weak and rapid pulse and moist rates. Death, due to anoxia, may occur several hours after onset of the pulmonary oedema.</p> <p>Not normally a hazard due to non-volatile nature of product</p> <p>The material may produce respiratory tract irritation. Symptoms of pulmonary irritation may include coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and a burning sensation.</p> <p>Unlike most organs, the lung can respond to a chemical insult or a chemical agent, by first removing or neutralising the irritant and then repairing the damage (inflammation of the lungs may be a consequence).</p> <p>The repair process (which initially developed to protect mammalian lungs from foreign matter and antigens) may, however, cause further damage to the lungs (fibrosis for example) when activated by hazardous chemicals. Often, this results in an impairment of gas exchange, the primary function of the lungs. Therefore prolonged exposure to respiratory irritants may cause sustained breathing difficulties.</p>
<b>Ingestion</b>	<p>The material can produce severe chemical burns within the oral cavity and gastrointestinal tract following ingestion.</p> <p>Ingestion of acidic corrosives may produce circumoral burns with a distinct discolouration of the mucous membranes of the mouth, throat and oesophagus. Immediate pain and difficulties in swallowing and speaking may also be evident.</p>



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	<p>Oedema of the epiglottis may produce respiratory distress and possibly, asphyxia. Nausea, vomiting, diarrhoea and a pronounced thirst may occur. More severe exposures may produce a vomitus containing fresh or dark blood and large shreds of mucosa. Shock, with marked hypotension, weak and rapid pulse, shallow respiration and clammy skin may be symptomatic of the exposure. Circulatory collapse may, if left untreated, result in renal failure. Severe cases may show gastric and oesophageal perforation with peritonitis, fever and abdominal rigidity. Stricture of the oesophageal, gastric and pyloric sphincter may occur as within several weeks or may be delayed for years. Death may be rapid and often results from asphyxia, circulatory collapse or aspiration of even minute amounts. Delayed deaths may be due to peritonitis, severe nephritis or pneumonia. Coma and convulsions may be terminal.</p>						
<b>Skin Contact</b>	<p>The material can produce severe chemical burns following direct contact with the skin.</p> <p>Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue.</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling of the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.</p>						
<b>Eye</b>	<p>The material can produce severe chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.</p> <p>When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.</p> <p>Direct eye contact with acid corrosives may produce pain, lachrymation, photophobia and burns. Mild burns of the epithelia generally recover rapidly and completely. Severe burns produce long-lasting and possible irreversible damage. The appearance of the burn may not be apparent for several weeks after the initial contact. The cornea may ultimately become deeply vascularised and opaque resulting in blindness.</p> <p>The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p>						
<b>Chronic</b>	<p>Repeated or prolonged exposure to acids may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis.</p> <p>The impact of inhaled acidic agents on the respiratory tract depends upon a number of interrelated factors. These include physicochemical characteristics, e.g., gas versus aerosol; particle size (small particles can penetrate deeper into the lung); water solubility (more soluble agents are more likely to be removed in the nose and mouth). Given the general lack of information on the particle size of aerosols involved in occupational exposures to acids, it is difficult to identify their principal deposition site within the respiratory tract. Acid mists containing particles with a diameter of up to a few micrometers will be deposited in both the upper and lower airways. They are irritating to mucous epithelia, they cause dental erosion, and they produce acute effects in the lungs (symptoms and changes in pulmonary function). Asthmatics appear to be at particular risk for pulmonary effects.</p> <p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. 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. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.</p> <p>Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals.</p> <p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.</p>						
<b>FleetGuard Fleet-Tech Microbiocide</b>	<table border="1"> <thead> <tr> <th>TOXICITY</th> <th>IRRITATION</th> </tr> </thead> <tbody> <tr> <td>Not Available</td> <td>Not Available</td> </tr> </tbody> </table>	TOXICITY	IRRITATION	Not Available	Not Available		
TOXICITY	IRRITATION						
Not Available	Not Available						
<b>dipropylene glycol</b>	<table border="1"> <thead> <tr> <th>TOXICITY</th> <th>IRRITATION</th> </tr> </thead> <tbody> <tr> <td>Dermal (rabbit) LD50: &gt;5010 mg/kg<sup>[1]</sup></td> <td>Eye (rabbit): 510 mg</td> </tr> <tr> <td>Oral (rat) LD50: 14850 mg/kg<sup>[2]</sup></td> <td>Skin (rabbit): 500 mg/24h mild</td> </tr> </tbody> </table>	TOXICITY	IRRITATION	Dermal (rabbit) LD50: >5010 mg/kg <sup>[1]</sup>	Eye (rabbit): 510 mg	Oral (rat) LD50: 14850 mg/kg <sup>[2]</sup>	Skin (rabbit): 500 mg/24h mild
TOXICITY	IRRITATION						
Dermal (rabbit) LD50: >5010 mg/kg <sup>[1]</sup>	Eye (rabbit): 510 mg						
Oral (rat) LD50: 14850 mg/kg <sup>[2]</sup>	Skin (rabbit): 500 mg/24h mild						

## FleetGuard Fleet-Tech Microbiocide

5-chloro-2-methyl-4-isothiazolin-3-one	TOXICITY	IRRITATION
	Not Available	Not Available
2-methyl-4-isothiazolin-3-one	TOXICITY	IRRITATION
	Not Available	Not Available
magnesium chloride	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup> Oral (rat) LD50: 2800 mg/kg <sup>[2]</sup>	Not Available
magnesium citrate	TOXICITY	IRRITATION
	Not Available	Not Available
water	TOXICITY	IRRITATION
	Not Available	Not Available
<b>Legend:</b>	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	

DIPROPYLENE GLYCOL	<p>for dipropylene glycol and its isomers:</p> <p><b>Acute toxicity:</b> Dipropylene glycol (DPG) is not acutely toxic by oral (LD 50 &gt;13 g/kg bw/day from 7 rat studies and 17.6 g/kg bw/day from a guinea pig study), dermal (LD50 &gt; 5 g/kg bw/day in 2 rabbit studies) or inhalation (no deaths observed in rats and guinea pigs at 6 to 8 g/m3) routes of exposure. DPG is slightly irritating to the skin and eyes of rabbits. Based on human data, DPG is not a skin sensitiser.</p> <p><b>Repeat dose toxicity:</b> Repeated exposures of rats to DPG did not result in adverse effects at levels up to 5% (estimated NOAEL is about 6.2 g/kg bw/day) in drinking water. At about 12.5 g/kg bw/day (10%), kidney lesions appeared in about 30% of the rats. Results from an OECD 422 combined repeat dose/reproductive/developmental toxicity test on the structural analogue, tripropylene glycol (TPG), demonstrated a NOAEL of 200 mg/kg bw and a LOAEL of 1000 mg/kg bw for repeated dose toxicity, with increased relative weight for liver and kidney. Metabolic fate data on TPG demonstrates that TPG is readily converted to DPG, PG, and CO<sub>2</sub> in rats. Thus, data from TPG are relevant to DPG.</p> <p><b>Reproductive and developmental toxicity:</b> DPG did not cause foetal toxicity or teratogenicity in rats (NOAEL = 5 g/kg bw/day) or rabbits (NOAEL = 1.2 g/kg bw/day). No reproductive studies have been conducted on DPG. However, the structural analogues, propylene glycol and TPG, have been tested for reproductive effects and shown to have NOAELs of 10.1 g/kg bw in mice and 1 g/kg bw in rats, respectively. Thus, the lack of reproductive effects from TPG and the high NOAEL for PG reproductive toxicity indicate that no reproductive effects are expected in animals exposed to DPG, in the absence of maternal toxicity.</p> <p><b>Genotoxicity:</b> DPG is not a genetic toxicant based on <i>in vitro</i> (bacterial and mammalian cells in culture) and <i>in vivo</i> (micronucleus) studies.</p>
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE	Considered to be the major sensitiser in Kathon CG (1)
2-METHYL-4-ISOTHIAZOLIN-3-ONE	Considered to be a minor sensitiser in Kathon CG (1)
MAGNESIUM CITRATE	<p>for citric acid (and its inorganic citrate salts)</p> <p>Based on many experimental data in animals and on human experience, citric acid is of low acute toxicity. The NOAEL for repeated dose toxicity for rats is 1200 mg/kg/d. The major, reversible (sub)chronic toxic effects seem to be limited to changes in blood chemistry and metal absorption/excretion kinetics. Citric acid is not suspected of being a carcinogen nor a reprotoxic or teratogenic agent. The NOAEL for reproductive toxicity for rats is 2500 mg/kg/d. Further, it is not mutagenic <i>in vitro</i> and <i>in vivo</i>. Also, the sensitising potential is seen as low. In contrast, irritation, in particular of the eyes but also of the respiratory pathways and the skin, is the major toxicological hazard presented by citric acid</p>
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE & 2-METHYL-4-ISOTHIAZOLIN-3-ONE	<p>The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.</p>
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE & 2-METHYL-4-ISOTHIAZOLIN-3-ONE & WATER	No significant acute toxicological data identified in literature search.

## FleetGuard Fleet-Tech Microbiocide

5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE & 2-METHYL-4-ISOTHIAZOLIN-3-ONE	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE & 2-METHYL-4-ISOTHIAZOLIN-3-ONE	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE & 2-METHYL-4-ISOTHIAZOLIN-3-ONE & MAGNESIUM CHLORIDE & MAGNESIUM CITRATE	Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. 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. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE & 2-METHYL-4-ISOTHIAZOLIN-3-ONE	<b>NOTE:</b> Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA.
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE & 2-METHYL-4-ISOTHIAZOLIN-3-ONE	(1). Bruze etal - Contact Dermatitis 20: 219-39, 1989

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 available but does not fill the criteria for classification  
 ✓ – Data available to make classification  
 ⊖ – Data Not Available to make classification

## SECTION 12 ECOLOGICAL INFORMATION

## Toxicity

FleetGuard Fleet-Tech Microbiocide	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
dipropylene glycol	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	EC50	48	Crustacea	>100mg/L	2
5-chloro-2-methyl-4-isothiazolin-3-one	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.19mg/L	4
	EC50	48	Crustacea	0.028mg/L	4
	EC50	72	Algae or other aquatic plants	0.021mg/L	4
	NOEC	504	Crustacea	0.172mg/L	1
2-methyl-4-isothiazolin-3-one	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.07mg/L	4
	EC50	48	Crustacea	0.18mg/L	4
	EC50	72	Algae or other aquatic plants	0.05mg/L	4

Continued...

FleetGuard Fleet-Tech Microbiocide

magnesium chloride	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	541mg/L	2
	EC50	48	Crustacea	140mg/L	4
	EC50	72	Algae or other aquatic plants	>100mg/L	2
	NOEC	72	Algae or other aquatic plants	100mg/L	2
magnesium citrate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
water	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
<b>Legend:</b> <i>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</i>					

Prevent, by any means available, spillage from entering drains or water courses.

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
dipropylene glycol	LOW	LOW
5-chloro-2-methyl-4-isothiazolin-3-one	HIGH	HIGH
2-methyl-4-isothiazolin-3-one	HIGH	HIGH
magnesium chloride	HIGH	HIGH
magnesium citrate	LOW	LOW
water	LOW	LOW

**Bioaccumulative potential**

Ingredient	Bioaccumulation
dipropylene glycol	LOW (BCF = 4.6)
5-chloro-2-methyl-4-isothiazolin-3-one	LOW (LogKOW = 0.0444)
2-methyl-4-isothiazolin-3-one	LOW (LogKOW = -0.8767)
magnesium chloride	LOW (LogKOW = 0.0494)
magnesium citrate	LOW (LogKOW = -1.6734)
water	LOW (LogKOW = -1.38)

**Mobility in soil**

Ingredient	Mobility
dipropylene glycol	HIGH (KOC = 1)
5-chloro-2-methyl-4-isothiazolin-3-one	LOW (KOC = 45.15)
2-methyl-4-isothiazolin-3-one	LOW (KOC = 27.88)
magnesium chloride	LOW (KOC = 23.74)
magnesium citrate	LOW (KOC = 10)
water	LOW (KOC = 14.3)

**SECTION 13 DISPOSAL CONSIDERATIONS**

FleetGuard Fleet-Tech Microbiocide

Waste treatment methods

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>▶ Recycle wherever possible.</li> <li>▶ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.</li> <li>▶ Treat and neutralise at an approved treatment plant. Treatment should involve: Neutralisation with soda-ash or soda-lime followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus</li> <li>▶ Decontaminate empty containers with 5% aqueous sodium hydroxide or soda ash, followed by water. Observe all label safeguards until containers are cleaned and destroyed.</li> </ul>
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SECTION 14 TRANSPORT INFORMATION

Labels Required

	
<b>Marine Pollutant</b>	NO
<b>HAZCHEM</b>	2X

Land transport (ADG)

<b>UN number</b>	3265				
<b>UN proper shipping name</b>	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.				
<b>Transport hazard class(es)</b>	<table border="0" style="width: 100%;"> <tr> <td style="border-right: 1px dashed black;">Class</td> <td>8</td> </tr> <tr> <td style="border-right: 1px dashed black;">Subrisk</td> <td>Not Applicable</td> </tr> </table>	Class	8	Subrisk	Not Applicable
Class	8				
Subrisk	Not Applicable				
<b>Packing group</b>	II				
<b>Environmental hazard</b>	Not Applicable				
<b>Special precautions for user</b>	<table border="0" style="width: 100%;"> <tr> <td style="border-right: 1px dashed black;">Special provisions</td> <td>274</td> </tr> <tr> <td style="border-right: 1px dashed black;">Limited quantity</td> <td>1 L</td> </tr> </table>	Special provisions	274	Limited quantity	1 L
Special provisions	274				
Limited quantity	1 L				

Air transport (ICAO-IATA / DGR)

<b>UN number</b>	3265														
<b>UN proper shipping name</b>	Corrosive liquid, acidic, organic, n.o.s. *														
<b>Transport hazard class(es)</b>	<table border="0" style="width: 100%;"> <tr> <td style="border-right: 1px dashed black;">ICAO/IATA Class</td> <td>8</td> </tr> <tr> <td style="border-right: 1px dashed black;">ICAO / IATA Subrisk</td> <td>Not Applicable</td> </tr> <tr> <td style="border-right: 1px dashed black;">ERG Code</td> <td>8L</td> </tr> </table>	ICAO/IATA Class	8	ICAO / IATA Subrisk	Not Applicable	ERG Code	8L								
ICAO/IATA Class	8														
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ERG Code	8L														
<b>Packing group</b>	II														
<b>Environmental hazard</b>	Not Applicable														
<b>Special precautions for user</b>	<table border="0" style="width: 100%;"> <tr> <td style="border-right: 1px dashed black;">Special provisions</td> <td>A3 A803</td> </tr> <tr> <td style="border-right: 1px dashed black;">Cargo Only Packing Instructions</td> <td>855</td> </tr> <tr> <td style="border-right: 1px dashed black;">Cargo Only Maximum Qty / Pack</td> <td>30 L</td> </tr> <tr> <td style="border-right: 1px dashed black;">Passenger and Cargo Packing Instructions</td> <td>851</td> </tr> <tr> <td style="border-right: 1px dashed black;">Passenger and Cargo Maximum Qty / Pack</td> <td>1 L</td> </tr> <tr> <td style="border-right: 1px dashed black;">Passenger and Cargo Limited Quantity Packing Instructions</td> <td>Y840</td> </tr> <tr> <td style="border-right: 1px dashed black;">Passenger and Cargo Limited Maximum Qty / Pack</td> <td>0.5 L</td> </tr> </table>	Special provisions	A3 A803	Cargo Only Packing Instructions	855	Cargo Only Maximum Qty / Pack	30 L	Passenger and Cargo Packing Instructions	851	Passenger and Cargo Maximum Qty / Pack	1 L	Passenger and Cargo Limited Quantity Packing Instructions	Y840	Passenger and Cargo Limited Maximum Qty / Pack	0.5 L
Special provisions	A3 A803														
Cargo Only Packing Instructions	855														
Cargo Only Maximum Qty / Pack	30 L														
Passenger and Cargo Packing Instructions	851														
Passenger and Cargo Maximum Qty / Pack	1 L														
Passenger and Cargo Limited Quantity Packing Instructions	Y840														
Passenger and Cargo Limited Maximum Qty / Pack	0.5 L														

Sea transport (IMDG-Code / GGVSee)

<b>UN number</b>	3265
<b>UN proper shipping name</b>	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

FleetGuard Fleet-Tech Microbiocide

<b>Transport hazard class(es)</b>	IMDG Class	8
	IMDG Subrisk	Not Applicable
<b>Packing group</b>	II	
<b>Environmental hazard</b>	Not Applicable	
<b>Special precautions for user</b>	EMS Number	F-A , S-B
	Special provisions	274
	Limited Quantities	1 L

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

Not Applicable

**SECTION 15 REGULATORY INFORMATION**

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

**DIPROPYLENE GLYCOL(25265-71-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Inventory of Chemical Substances (AICS)

**5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE(26172-55-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Inventory of Chemical Substances (AICS)

**2-METHYL-4-ISOTHIAZOLIN-3-ONE(2682-20-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Inventory of Chemical Substances (AICS)

**MAGNESIUM CHLORIDE(7786-30-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Inventory of Chemical Substances (AICS)

**MAGNESIUM CITRATE(3344-18-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Inventory of Chemical Substances (AICS)

**WATER(7732-18-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Inventory of Chemical Substances (AICS)

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (magnesium chloride; magnesium citrate; dipropylene glycol; 5-chloro-2-methyl-4-isothiazolin-3-one; 2-methyl-4-isothiazolin-3-one; water)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	Y
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	N (magnesium citrate)
USA - TSCA	Y
<b>Legend:</b>	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

**SECTION 16 OTHER INFORMATION**

**Other information**

**Ingredients with multiple cas numbers**

Name	CAS No
dipropylene glycol	25265-71-8, 110-98-5, 106-62-7, 108-61-2

Continued...

magnesium chloride	7786-30-3, 7791-18-6, 14989-29-8
magnesium citrate	3344-18-1, 7779-25-1, 153531-96-5

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

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

### Definitions and abbreviations

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

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