1. Identification

Product identifier: FLEET-TECH MICROBICIDE

Other means of identification:
- SDS number: LT16609
- Product code: CC2661, CC2662, CC2663

Recommended use: Fuel system preservative for eliminating micro-organisms, bacteria and fungi.

Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer:
- Company name: Cummins Filtration
- Address: 1200 Fleetguard Road
- Cookeville, TN 38506
- United States
- Telephone: 24 Hours per day 1-800-22FILTER (1-800-223-4583)
- E-mail: Not available.
- Emergency phone number:
  - Within Continental U.S.: Chemtrec 1-800-424-9300
  - Outside U.S.: Chemtrec 703-527-3887

Supplier: Not available.

2. Hazard(s) identification

Physical hazards: This mixture does not meet the classification criteria according to OSHA HazCom 2012.

Health hazards:
- Acute toxicity, inhalation: Category 4
- Skin corrosion/irritation: Category 2
- Sensitization, skin: Category 1

Environmental hazards: This mixture does not meet the classification criteria according to OSHA HazCom 2012.

OSHA defined hazards: This mixture does not meet the classification criteria according to OSHA HazCom 2012.

Label elements

Signal word:
- Warning

Hazard statement:
- Causes skin irritation. May cause an allergic skin reaction. Harmful if inhaled.

Precautionary statement

Prevention:
- Avoid breathing mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves.

Response:
- If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. Specific treatment (see this label). If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
- Storage: Store away from incompatible materials.
- Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC):
- Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
- Exposure to low vapour concentrations may cause swelling (edema) of the eyes, resulting in blurring of vision with a bluish haze and/or appearance of halos around lights. Symptoms of poisoning may include cyanosis (bluish discoloration of the skin), nausea, dizziness, rapid heartbeat, irregular breathing, coma and death.

Supplemental information:
- Not applicable.
3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium Nitrate</td>
<td>Magnesium Dinitrate</td>
<td>10377-60-3</td>
<td>1 - 3</td>
</tr>
<tr>
<td>Magnesium dinitrate hexahydrate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-chloro-2-methyl-2h-isothiazol-3-one</td>
<td>Not Available</td>
<td>26172-55-4</td>
<td>0.8 - 1.5</td>
</tr>
<tr>
<td>Magnesium Chloride</td>
<td>Not Available</td>
<td>7786-30-3</td>
<td>0.5 - 1.5</td>
</tr>
<tr>
<td>2-methyl-2h-isothiazol-3-one</td>
<td>Not Available</td>
<td>2682-20-4</td>
<td>0.1 - 0.5</td>
</tr>
<tr>
<td>Other components below reportable levels</td>
<td></td>
<td>95.5</td>
<td></td>
</tr>
</tbody>
</table>

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Take off contaminated clothing and wash before reuse.

Eye contact

Rinse with water. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Skin irritation. May cause an allergic skin reaction. Dermatitis. Rash. May cause redness and pain.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards

No unusual fire or explosion hazards noted.

Hazardous combustion products

Not available.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of vapors. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up

This product is miscible in water. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

7. Handling and storage

Precautions for safe handling

Avoid breathing vapor. Avoid contact with skin. Avoid contact with eyes. Avoid contact with clothing. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

No exposure limits noted for ingredient(s).

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear appropriate chemical-resistant gloves.

Other

Wear appropriate chemical-resistant clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state

Liquid.

Form

Liquid.

Color

Clear.

Odor

Odorless.

Odor threshold

Not available.

pH

4.4

Melting point/freezing point

Not available.

Initial boiling point and boiling range

444.2 °F (229 °C)

Flash point

Not available.

Evaporation rate

Not available.

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower

Not available.

Material name: FLEET-TECH MICROBICIDE
CC2661, CC2662, CC2663    Version #: 02    Revision date: 03-20-2015    Issue date: 02-27-2015
Flammability limit - upper (%)
Not available.

Explosive limit - lower (%)
Not available.

Explosive limit - upper (%)
Not available.

Vapor pressure
0.06 mm Hg Dipropylene glycol

Vapor density
0.65

Relative density
Not available.

Solubility(ies)
Solubility (water)
Completely soluble

Partition coefficient (n-octanol/water)
Not available.

Auto-ignition temperature
Not available.

Decomposition temperature
Not available.

Viscosity
Not available.

Other information
Specific gravity
1.04

VOC (Weight %)
< 97 %

10. Stability and reactivity
Reactivity
The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability
Material is stable under normal conditions.

Possibility of hazardous reactions
Hazardous polymerization does not occur.

Conditions to avoid
Contact with incompatible materials.

Incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
No hazardous decomposition products are known.

11. Toxicological information
Information on likely routes of exposure
Inhalation
Harmful if inhaled.

Skin contact
Causes skin irritation. May cause an allergic skin reaction.

Eye contact
Direct contact with eyes may cause temporary irritation.

Ingestion
Expected to be a low ingestion hazard.

Most important symptoms/effects, acute and delayed
Skin irritation. May cause an allergic skin reaction. Dermatitis. Rash. May cause redness and pain.

Information on toxicological effects
Acute toxicity
Harmful if inhaled. May cause an allergic skin reaction.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-methyl-2h-isothiazol-3-one (CAS 2682-20-4)</td>
<td>Acute</td>
<td>Dermal</td>
</tr>
<tr>
<td>5-chloro-2-methyl-2h-isothiazol-3-one (CAS 26172-55-4)</td>
<td>Acute</td>
<td>Dermal</td>
</tr>
<tr>
<td></td>
<td>Oral</td>
<td>LD50</td>
</tr>
<tr>
<td>Components</td>
<td>Species</td>
<td>Test Results</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-----------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Magnesium Chloride (CAS 7786-30-3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Dermal</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>No data in literature</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
<td>No data in literature</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>2800 mg/kg</td>
</tr>
<tr>
<td>Magnesium Nitrate (CAS 10377-60-3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Dermal</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>&gt; 5000 mg/kg</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
<td>No data in literature</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>&gt; 2000 mg/kg</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

- **Skin corrosion/irritation**: Causes skin irritation.
- **Serious eye damage/eye irritation**: Direct contact with eyes may cause temporary irritation.
- **Respiratory or skin sensitization**: Not available.
- **Respiratory sensitization**: Not available.
- **Skin sensitizers**: May cause an allergic skin reaction.
- **Germ cell mutagenicity**: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
- **Carcinogenicity**: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Not listed.

- **Reproductive toxicity**: This product is not expected to cause reproductive or developmental effects.
- **Specific target organ toxicity - single exposure**: Not classified.
- **Specific target organ toxicity - repeated exposure**: Not classified.
- **Aspiration toxicity**: Not available.

**12. Ecological information**

- **Ecotoxicity**: The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-methyl-2H-isothiazol-3-one (CAS 2682-20-4)</td>
<td>LC50</td>
<td>Rainbow trout (Oncorhynchus mykiss)</td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Water flea (Daphnia magna)</td>
</tr>
<tr>
<td>5-chloro-2-methyl-2H-isothiazol-3-one (CAS 26172-55-4)</td>
<td>LC50</td>
<td>Rainbow trout (Oncorhynchus mykiss)</td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Water flea (Daphnia magna)</td>
</tr>
</tbody>
</table>
### Components Test Results

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chronic</strong></td>
<td>NOEC</td>
<td>Water flea (Daphnia magna) 0.172 mg/l, 21 days</td>
</tr>
<tr>
<td><strong>Magnesium Chloride (CAS 7786-30-3)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algae</td>
<td>EC50</td>
<td>Green Algae (Pseudokirchneriella subcapitata) &gt; 82.7 mg/l, 72 hours</td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Water flea (Daphnia magna) &gt; 88.7 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Japanese rice fish (Oryzias latipes) &gt; 95.2 mg/l, 96 hours</td>
</tr>
<tr>
<td><strong>Magnesium Nitrate (CAS 10377-60-3)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Guppy (Poecilia reticulata) 1378 mg/l, 96 hours (potassium nitrate, KNO3/L)</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

### Persistence and degradability
No data is available on the degradability of this product.

### Bioaccumulative potential
No data available.

### Mobility in soil
No data available.

### Other adverse effects
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

#### Disposal instructions
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Local disposal regulations
Dispose in accordance with all applicable regulations.

#### Hazardous waste code
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

#### Waste from residues / unused products
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

#### Contaminated packaging
Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

#### DOT
Not regulated as dangerous goods.

#### IATA
Not regulated as dangerous goods.

#### IMDG
Not regulated as dangerous goods.

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not available.

#### General information
DOT Regulated Marine Pollutant. IMDG Regulated Marine Pollutant.

### 15. Regulatory information

#### US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
2-methyl-2h-isothiazol-3-one (CAS 2682-20-4) 1.0 % One-Time Export Notification only.
5-chloro-2-methyl-2h-isothiazol-3-one (CAS 26172-55-4) 1.0 % One-Time Export Notification only.
CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
- Immediate Hazard - Yes
- Delayed Hazard - No
- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No

SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous chemical
No

SARA 313 (TRI reporting)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>% by wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium Nitrate</td>
<td>10377-60-3</td>
<td>1 - 3</td>
</tr>
</tbody>
</table>

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)
Not listed.

US. Massachusetts RTK - Substance List
Magnesium Nitrate (CAS 10377-60-3)

US. New Jersey Worker and Community Right-to-Know Act
Magnesium Nitrate (CAS 10377-60-3)

US. Pennsylvania Worker and Community Right-to-Know Law
Magnesium Nitrate (CAS 10377-60-3)

US. Rhode Island RTK
Magnesium Nitrate (CAS 10377-60-3)

US. California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Country(s) or region | Inventory name | On inventory (yes/no)*
--- | --- | ---
United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes

*A “Yes” indicates that all components of this product comply with the inventory requirements administered by the governing country(s).
A “No” indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

| Issue date | 02-27-2015 |
| Revision date | 03-20-2015 |
| Version # | 02 |

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.

Bibliography

Not available.