1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Ivermectin / Abamectin Liquid Formulation

Manufacturer or supplier's details
Company: MSD
Address: No. 485 Jing Tai Road
Pu Tuo District - Shanghai - China 200331

Telephone: +1-908-740-4000
Emergency telephone number: 86-571-87268110
E-mail address: EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use
Recommended use: Veterinary product

2. HAZARDS IDENTIFICATION

Emergency Overview

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>light yellow</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic</td>
</tr>
</tbody>
</table>

Harmful if swallowed or if inhaled. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May damage the unborn child. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

GHS Classification

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (Oral)</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute toxicity (Inhalation)</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2A</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Category 1B</td>
</tr>
<tr>
<td>Specific target organ toxicity - single exposure</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific target organ toxicity - single exposure</td>
<td>Category 3</td>
</tr>
<tr>
<td>Specific target organ toxicity - repeated exposure</td>
<td>Category 2</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Ivermectin / Abamectin Liquid Formulation

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
<th>Date of first issue:</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.3</td>
<td>2021/08/27</td>
<td>1210005-00013</td>
<td>2021/04/26</td>
<td>2017/01/10</td>
</tr>
</tbody>
</table>

Short-term (acute) aquatic hazard: Category 1

Long-term (chronic) aquatic hazard: Category 1

GHS label elements
Hazard pictograms:

Signal word: Danger

Hazard statements:
H302 + H332 Harmful if swallowed or if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H360D May damage the unborn child.
H371 May cause damage to organs.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements:

**Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before...
Ivermectin / Abamectin Liquid Formulation

Physical and chemical hazards
Not classified based on available information.

Health hazards
Harmful if swallowed. Harmful if inhaled. Causes skin irritation. Causes serious eye irritation. May damage the unborn child. May cause damage to organs. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure.

Environmental hazards
Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Other hazards which do not result in classification
None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Mixture</th>
</tr>
</thead>
</table>

**Components**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>872-50-4</td>
<td>&gt;= 20 - &lt; 30</td>
</tr>
<tr>
<td>Ivermectin</td>
<td>70288-86-7</td>
<td>&gt;= 1 - &lt; 2.5</td>
</tr>
<tr>
<td>abamectin (combination of avermectin B1a and avermectin B1b) (ISO)</td>
<td>71751-41-2</td>
<td>&gt;= 1 - &lt; 2.5</td>
</tr>
<tr>
<td>(dl)-a-Tocopheryl acetate</td>
<td>7695-91-2</td>
<td>&lt; 0.1</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

**General advice**
In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

**If inhaled**
If inhaled, remove to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
Get medical attention.

**In case of skin contact**
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

**In case of eye contact**
In case of contact, immediately flush eyes with plenty of water.
for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention.

If swallowed
If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed
Harmful if swallowed or if inhaled. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May damage the unborn child. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure.

Protection of first-aiders
First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician
Treat symptomatically and supportively.

5. FIREFIGHTING MEASURES

Suitable extinguishing media
- Water spray
- Alcohol-resistant foam
- Carbon dioxide (CO2)
- Dry chemical

Unsuitable extinguishing media
- None known.

Specific hazards during firefighting
Exposure to combustion products may be a hazard to health.

Hazardous combustion products
- Carbon oxides
- Nitrogen oxides (NOx)

Specific extinguishing methods
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Use water spray to cool unopened containers.
- Remove undamaged containers from fire area if it is safe to do so.
- Evacuate area.

Special protective equipment for firefighters
- In the event of fire, wear self-contained breathing apparatus.
- Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
- Use personal protective equipment.
- Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions
- Avoid release to the environment.
- Prevent further leakage or spillage if safe to do so.
- Prevent spreading over a wide area (e.g. by containment or oil barriers).
- Retain and dispose of contaminated wash water.
- Local authorities should be advised if significant spillages...
Methods and materials for containment and cleaning up: Soak up with inert absorbent material. For large spills, provide dyeing or other appropriate containment to keep material from spreading. If dyed material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

7. HANDLING AND STORAGE

Handling
Technical measures: See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation: If sufficient ventilation is unavailable, use with local exhaust ventilation.
Advice on safe handling: Do not get on skin or clothing. Do not breathe mist or vapours. Do not swallow. Do not get in eyes. Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Keep container tightly closed. Already sensitised individuals should consult their physician regarding working with respiratory irritants or sensitizers. Do not eat, drink or smoke when using this product. Take care to prevent spills, waste and minimize release to the environment.

Avoidance of contact: Oxidizing agents

Storage
Conditions for safe storage: Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations.

Materials to avoid: Do not store with the following product types: Strong oxidizing agents

Packaging material: Unsuitable material: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters


**SAFETY DATA SHEET**

according to GB/T 16483 and GB/T 17519

**Ivermectin / Abamectin Liquid Formulation**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ivermectin</td>
<td>70288-86-7</td>
<td>TWA</td>
<td>0.05 mg/m³ (OEB 3)</td>
<td>Internal</td>
</tr>
<tr>
<td>abamectin (combination of avermectin B1a and avermectin B1b) (ISO)</td>
<td>71751-41-2</td>
<td>TWA</td>
<td>15 µg/m³ (OEB 3)</td>
<td>Internal</td>
</tr>
<tr>
<td>(dl)-a-Tocopheryl acetate</td>
<td>7695-91-2</td>
<td>TWA</td>
<td>5000 ug/m³ (OEB 1)</td>
<td>Internal</td>
</tr>
</tbody>
</table>

**Biological occupational exposure limits**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Biological specimen</th>
<th>Sampling time</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>872-50-4</td>
<td>5-Hydroxy-N-methyl-2-pyrrolidone</td>
<td>Urine</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>100 mg/l</td>
<td>ACGIH BEI</td>
</tr>
</tbody>
</table>

**Engineering measures**

Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., dripless quick connections).

All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.

Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).

Minimize open handling.

**Personal protective equipment**

**Respiratory protection**

If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

**Filter type**

Combined particulates and organic vapour type

**Eye/face protection**

Wear safety glasses with side shields or goggles.

If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.

Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

**Skin and body protection**

Work uniform or laboratory coat.

Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.
Use appropriate degowning techniques to remove potentially contaminated clothing.

Material : Chemical-resistant gloves

Remarks : Consider double gloving.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use. The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : light yellow

Odour : characteristic

Odour Threshold : No data available

pH : Not applicable

Melting point/freezing point : No data available

Initial boiling point and boiling range : No data available

Flash point : > 100 °C

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Flammability (liquids) : Not applicable

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available
Ivermectin / Abamectin Liquid Formulation

Relative density : No data available
Density : 0.91 - 1.00 mg/l

Solubility(ies)
Water solubility : insoluble
Partition coefficient: n-octanol/water : Not applicable
Auto-ignition temperature : No data available
Decomposition temperature : No data available

Viscosity
Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Molecular weight : No data available
Particle size : Not applicable

10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : Can react with strong oxidizing agents.
Conditions to avoid : None known.
Incompatible materials : Oxidizing agents
Hazardous decomposition products : No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Exposure routes : Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity
Harmful if swallowed or if inhaled.

Product:
Acute oral toxicity : Acute toxicity estimate: 981.33 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 1.84 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method
Acute dermal toxicity: Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Components:

N-Methyl-2-pyrrolidone:
Acute oral toxicity: LD50 (Rat): 4,150 mg/kg
Acute inhalation toxicity: LC50 (Rat): > 5.1 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity: LD50 (Rat): > 5,000 mg/kg

Ivermectin:
Acute oral toxicity: LD50 (Rat): 50 mg/kg
LD50 (Mouse): 25 mg/kg
LD50 (Monkey): > 24 mg/kg
Target Organs: Central nervous system
Symptoms: Vomiting, Dilatation of the pupil
Remarks: No mortality observed at this dose.

Acute inhalation toxicity: LC50 (Rat): 5.11 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist

Acute dermal toxicity: LD50 (Rabbit): 406 mg/kg
LD50 (Rat): > 660 mg/kg

Abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Acute oral toxicity: LD50 (Rat): 24 mg/kg
LD50 (Mouse): 10 mg/kg
LDLo (Monkey): 24 mg/kg
Symptoms: Dilatation of the pupil

Acute inhalation toxicity: LC50 (Rat): 0.023 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity: LD50 (Rabbit): 330 mg/kg
LD50 (Rat): 2,000 mg/kg

(dl)-a-Tocopheryl acetate:
Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity: LD50 (Rat): > 3,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation
Causes skin irritation.

Components:

N-Methyl-2-pyrrolidone:
Result: Skin irritation

Ivermectin:
Species: Rabbit
Result: No skin irritation

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Species: Rabbit
Result: No skin irritation

(dl)-a-Tocopheryl acetate:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

Serious eye damage/eye irritation
Causes serious eye irritation.

Components:

N-Methyl-2-pyrrolidone:
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days

Ivermectin:
Species: Rabbit
Result: Mild eye irritation

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Species: Rabbit
Result: Mild eye irritation

(dl)-a-Tocopheryl acetate:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
**Respiratory or skin sensitisation**

**Skin sensitisation**
Not classified based on available information.

**Respiratory sensitisation**
Not classified based on available information.

**Components:**

**N-Methyl-2-pyrrolidone:**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Local lymph node assay (LLNA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure routes</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Species</td>
<td>Mouse</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 429</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**Ivermectin:**

<table>
<thead>
<tr>
<th>Exposure routes</th>
<th>Dermal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>Humans</td>
</tr>
<tr>
<td>Result</td>
<td>Does not cause skin sensitisation.</td>
</tr>
</tbody>
</table>

**abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Maximisation Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure routes</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Result</td>
<td>Not a skin sensitizer.</td>
</tr>
</tbody>
</table>

**(dl)-a-Tocopheryl acetate:**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Draize Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure routes</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Species</td>
<td>Humans</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

**Germ cell mutagenicity**
Not classified based on available information.

**Components:**

**N-Methyl-2-pyrrolidone:**

<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Bacterial reverse mutation assay (AMES)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Method: OECD Test Guideline 471</td>
</tr>
<tr>
<td></td>
<td>Result: negative</td>
</tr>
</tbody>
</table>

**Test Type:** In vitro mammalian cell gene mutation test

<table>
<thead>
<tr>
<th>Method</th>
<th>OECD Test Guideline 476</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

**Test Type:** DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)

| Result          | negative                                        |
Ivermectin / Abamectin Liquid Formulation

Genotoxicity in vivo:
- Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
  - Species: Mouse
  - Application Route: Ingestion
  - Method: OECD Test Guideline 474
  - Result: negative

- Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
  - Species: Hamster
  - Application Route: Ingestion
  - Method: OECD Test Guideline 475
  - Result: negative

Ivermectin:
- Genotoxicity in vitro:
  - Test Type: Bacterial reverse mutation assay (AMES)
    - Result: negative

  - Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
    - Test system: human diploid fibroblasts
    - Result: negative

  - Test Type: Mouse Lymphoma
    - Result: negative

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
- Genotoxicity in vitro:
  - Test Type: Bacterial reverse mutation assay (AMES)
    - Result: negative

  - Test Type: In vitro mammalian cell gene mutation test
    - Test system: Chinese hamster lung cells
    - Result: negative

  - Test Type: Alkaline elution assay
    - Result: negative

- Genotoxicity in vivo:
  - Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
    - Species: Mouse
    - Application Route: Intraperitoneal injection
    - Result: negative

(dl)-a-Tocopheryl acetate:
- Genotoxicity in vitro:
  - Test Type: Chromosome aberration test in vitro
    - Method: OECD Test Guideline 473
    - Result: negative

  - Test Type: Bacterial reverse mutation assay (AMES)
    - Method: OECD Test Guideline 471
    - Result: negative
Ivermectin / Abamectin Liquid Formulation

Genotoxicity in vivo:
- Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
- Species: Mouse
- Application Route: Ingestion
- Result: negative

Carcinogenicity:
Not classified based on available information.

Components:

N-Methyl-2-pyrrolidone:
- Species: Rat
- Application Route: Ingestion
- Exposure time: 2 Years
- Result: negative

Ivermectin:
- Species: Rat
- Application Route: Oral
- NOAEL: 1.5 mg/kg body weight
- Result: negative
- Remarks: Based on data from similar materials

Species: Mouse
- Application Route: Oral
- Exposure time: 93 weeks
- Result: negative

(abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
- Species: Rat
- Application Route: Oral
- Exposure time: 105 weeks
- Result: negative

Species: Mouse
- Application Route: Oral
- Exposure time: 93 weeks
- Result: negative

(dl)-a-Tocopheryl acetate:
- Species: Rat
- Application Route: Ingestion
- Exposure time: 104 weeks
- Result: negative
### Reproductive toxicity
May damage the unborn child.

#### Components:

**N-Methyl-2-pyrrolidone**:

<table>
<thead>
<tr>
<th>Effect on fertility</th>
<th>Test Type: Two-generation reproduction toxicity study</th>
<th>Species: Rat</th>
<th>Application Route: Ingestion</th>
<th>Method: OECD Test Guideline 416</th>
<th>Result: negative</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Effect on foetal development</th>
<th>Test Type: Embryo-foetal development</th>
<th>Species: Rat</th>
<th>Application Route: Ingestion</th>
<th>Method: OECD Test Guideline 414</th>
<th>Result: positive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test Type: Fertility/early embryonic development</td>
<td>Species: Rat</td>
<td>Application Route: inhalation (vapour)</td>
<td>Result: positive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Test Type: Embryo-foetal development</td>
<td>Species: Rabbit</td>
<td>Application Route: Ingestion</td>
<td>Result: positive</td>
<td></td>
</tr>
</tbody>
</table>

**Reproductive toxicity - Assessment**: Clear evidence of adverse effects on development, based on animal experiments.

**Ivermectin**:

<table>
<thead>
<tr>
<th>Effect on fertility</th>
<th>Test Type: Fertility</th>
<th>Species: Rat</th>
<th>Application Route: Oral</th>
<th>Fertility: NOAEL: 0.6 mg/kg body weight</th>
<th>Result: Animal testing did not show any effects on fertility.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Effect on foetal development</th>
<th>Test Type: Development</th>
<th>Species: Mouse</th>
<th>Application Route: Oral</th>
<th>Developmental Toxicity: NOAEL: 0.2 mg/kg body weight</th>
<th>Result: Teratogenic effects, Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test Type: Development</td>
<td>Species: Rat</td>
<td>Application Route: Oral</td>
<td>Developmental Toxicity: LOAEL: 0.4 mg/kg body weight</td>
<td>Result: Embryotoxic effects and adverse effects on the offspring were detected.</td>
</tr>
</tbody>
</table>
Remarks: The mechanism or mode of action may not be relevant in humans.

Test Type: Development
Species: Rabbit
Application Route: Oral
Result: Teratogenic effects, Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses

**abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**

**Effects on fertility:**
- Test Type: Fertility
  - Species: Rat, male
  - Application Route: Oral
  - Result: Effects on fertility
  
  Test Type: Two-generation reproduction toxicity study
  - Species: Rat
  - Application Route: Oral
  - Early Embryonic Development: NOAEL: 0.12 mg/kg body weight
  - Result: Fetotoxicity

**Effects on foetal development:**
- Test Type: Embryo-foetal development
  - Species: Mouse
  - Application Route: Oral
  - General Toxicity Maternal: NOAEL: 0.05 mg/kg body weight
  - Developmental Toxicity: NOAEL: 0.2 mg/kg body weight
  - Result: Cleft palate
  - Remarks: Adverse developmental effects were observed

  Test Type: Embryo-foetal development
  - Species: Rabbit
  - Application Route: Oral
  - Developmental Toxicity: LOAEL: 2 mg/kg body weight
  - Result: Cleft palate, Teratogenic effects, Reduced embryonic survival
  - Remarks: Adverse developmental effects were observed

  Test Type: Development
  - Species: Rat
  - Application Route: Oral
  - Developmental Toxicity: LOAEL: 1.6 mg/kg body weight
  - Result: Teratogenic effects

**Reproductive toxicity - Assessment:**
- Some evidence of adverse effects on sexual function and fertility, based on animal experiments. Some evidence of adverse effects on development, based on animal experiments.

**dl-a-Tocopheryl acetate:**

**Effects on fertility:**
- Test Type: Reproduction/Developmental toxicity screening test
### Species: Rat
Application Route: Ingestion
Result: negative

**Effects on foetal development**
Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Ingestion
Result: negative

#### STOT - single exposure
May cause respiratory irritation.
May cause damage to organs.

**Components:**

**N-Methyl-2-pyrrolidone:**
Assessment: May cause respiratory irritation.

**Ivermectin:**
Target Organs: Central nervous system
Assessment: Causes damage to organs.

#### STOT - repeated exposure
May cause damage to organs through prolonged or repeated exposure.

**Components:**

**Ivermectin:**
Target Organs: Central nervous system
Assessment: Causes damage to organs through prolonged or repeated exposure.

**abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**
Exposure routes: Ingestion
Target Organs: Central nervous system
Assessment: Causes damage to organs through prolonged or repeated exposure.

#### Repeated dose toxicity

**Components:**

**N-Methyl-2-pyrrolidone:**
Species: Rat, male
NOAEL: 169 mg/kg
LOAEL: 433 mg/kg
Application Route: Ingestion
Exposure time: 90 Days
Method: OECD Test Guideline 408
Species: Rat
NOAEL: 0.5 mg/l
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Ivermectin / Abamectin Liquid Formulation

Version: 5.3
Revision Date: 2021/08/27
SDS Number: 1210005-00013
Date of last issue: 2021/04/26
Date of first issue: 2017/01/10

LOAEL: 1 mg/l
Application Route: inhalation (dust/mist/fume)
Exposure time: 96 Days
Method: OECD Test Guideline 413

Species: Rabbit
NOAEL: 826 mg/kg
LOAEL: 1,653 mg/kg
Application Route: Skin contact
Exposure time: 20 Days

Ivermectin:
Species: Dog
NOAEL: 0.5 mg/kg
LOAEL: 1 mg/kg
Application Route: Oral
Exposure time: 14 Weeks
Target Organs: Central nervous system
Symptoms: Dilatation of the pupil, Tremors, Lack of coordination, anorexia

Species: Monkey
NOAEL: 1.2 mg/kg
Application Route: Oral
Exposure time: 2 Weeks
Remarks: No significant adverse effects were reported

Species: Rat
NOAEL: 0.4 mg/kg
LOAEL: 0.8 mg/kg
Application Route: Oral
Exposure time: 3 Months
Target Organs: spleen, Bone marrow, Kidney

Species: Mouse
NOAEL: 4.0 mg/kg
Application Route: Oral
Exposure time: 24 Months
Target Organs: Central nervous system
Symptoms: Tremors, ataxia

Species: Dog
NOAEL: 0.25 mg/kg
LOAEL: 0.5 mg/kg
Application Route: Oral
Exposure time: 53 Weeks

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Species: Rat
NOAEL: 1.5 mg/kg
Application Route: Oral
Exposure time: 24 Months
Target Organs: Central nervous system
Symptoms: Tremors, ataxia

Species: Mouse
NOAEL: 4.0 mg/kg
Application Route: Oral
Exposure time: 24 Months
Target Organs: Central nervous system
Symptoms: Tremors, ataxia

Species: Dog
NOAEL: 0.25 mg/kg
LOAEL: 0.5 mg/kg
Application Route: Oral
Exposure time: 53 Weeks
Target Organs: Central nervous system
Symptoms: Tremors, weight loss
Remarks: mortality observed

Species: Monkey
NOAEL: 1.0 mg/kg
Application Route: Oral
Exposure time: 14 Weeks
Target Organs: Central nervous system

(dl)-a-Tocopheryl acetate:
Species: Rat
NOAEL: 500 mg/kg
Application Route: Ingestion
Exposure time: 90 Days

Aspiration toxicity
Not classified based on available information.

Experience with human exposure

Components:

N-Methyl-2-pyrrolidone:
Skin contact: Symptoms: Skin irritation

Ivermectin:
Skin contact: Remarks: Can be absorbed through skin.
Eye contact: Remarks: May irritate eyes.
Ingestion: Symptoms: Drowsiness, Dilatation of the pupil, Tremors, Vomiting, anorexia, Lack of coordination

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Ingestion: Symptoms: May cause, Tremors, Diarrhoea, central nervous system effects, Salivation, tearing

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

N-Methyl-2-pyrrolidone:
Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): > 500 mg/l Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 24 h Method: DIN 38412

Toxicity to algae/aquatic plants: ErC50 (Desmodesmus subspicatus (green algae)): 600.5 mg/l Exposure time: 72 h
<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
<th>Date of first issue:</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.3</td>
<td>2021/08/27</td>
<td>1210005-00013</td>
<td>2021/04/26</td>
<td>2017/01/10</td>
</tr>
</tbody>
</table>

**Ivermectin / Abamectin Liquid Formulation**

**EC10** (Desmodesmus subspicatus (green algae)): 92.6 mg/l  
Exposure time: 72 h

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):**  
NOEC (Daphnia magna (Water flea)): 12.5 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211

**Toxicity to microorganisms:**  
EC50: > 600 mg/l  
Exposure time: 30 min  
Method: ISO 8192

**Ivermectin:**

**Toxicity to fish:**  
LC50 (Oncorhynchus mykiss (rainbow trout)): 0.003 mg/l  
Exposure time: 96 h

LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.0048 mg/l  
Exposure time: 96 h

**Toxicity to daphnia and other aquatic invertebrates:**  
EC50 (Daphnia magna (Water flea)): 0.000025 mg/l  
Exposure time: 48 h

**Toxicity to algae/aquatic plants:**  
EC50 (Pseudokirchneriella subcapitata (green algae)): > 9.1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 9.1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

**M-Factor (Acute aquatic toxicity):**  
10,000

**M-Factor (Chronic aquatic toxicity):**  
10,000

**abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**

**Toxicity to fish:**  
LC50 (Oncorhynchus mykiss (rainbow trout)): 3.2 µg/l  
Exposure time: 96 h

LC50 (Lepomis macrochirus (Bluegill sunfish)): 9.6 µg/l  
Exposure time: 96 h

LC50 (Ictalurus punctatus (channel catfish)): 24 µg/l  
Exposure time: 96 h

LC50 (Cyprinus carpio (Carp)): 42 µg/l  
Exposure time: 96 h

LC50 (Cyprinodon variegatus (sheepshead minnow)): 15 µg/l  
Exposure time: 96 h

**Toxicity to daphnia and other aquatic invertebrates:**  
EC50 (Americamysis): 0.022 µg/l  
Exposure time: 96 h
## Ivermectin / Abamectin Liquid Formulation

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 (Daphnia magna (Water flea))</td>
<td>0.34 µg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>48 h</td>
</tr>
<tr>
<td>EC50 (Pseudokirchneriella subcapitata (green algae))</td>
<td>100 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>72 h</td>
</tr>
<tr>
<td>M-Factor (Acute aquatic toxicity)</td>
<td>10,000</td>
</tr>
<tr>
<td>NOEC (Pimephales promelas (fathead minnow))</td>
<td>0.52 µg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>32 d</td>
</tr>
<tr>
<td>NOEC (Daphnia magna (Water flea))</td>
<td>0.03 µg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>21 d</td>
</tr>
<tr>
<td>NOEC (Mysidopsis bahia (opossum shrimp))</td>
<td>0.0035 µg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>28 d</td>
</tr>
<tr>
<td>M-Factor (Chronic aquatic toxicity)</td>
<td>10,000</td>
</tr>
<tr>
<td>NOEC (Pseudokirchneriella subcapitata (green algae))</td>
<td>&gt;= 100 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>72 h</td>
</tr>
<tr>
<td>NOEC (Oncorhynchus mykiss (rainbow trout))</td>
<td>100 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>28 d</td>
</tr>
<tr>
<td>EC50: &gt; 1,000 mg/l</td>
<td></td>
</tr>
<tr>
<td>Exposure time</td>
<td>3 h</td>
</tr>
<tr>
<td>Test Type</td>
<td>Respiration inhibition</td>
</tr>
<tr>
<td>LC50 (Oncorhynchus mykiss (rainbow trout))</td>
<td>&gt; 100 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>96 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 203</td>
<td></td>
</tr>
<tr>
<td>EC50 (Daphnia magna (Water flea))</td>
<td>&gt; 100 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>48 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 202</td>
<td></td>
</tr>
<tr>
<td>ErC50 (Pseudokirchneriella subcapitata (green algae))</td>
<td>&gt; 100 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>72 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 201</td>
<td></td>
</tr>
<tr>
<td>NOEC (Pseudokirchneriella subcapitata (green algae))</td>
<td>&gt;= 100 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>72 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 201</td>
<td></td>
</tr>
<tr>
<td>NOEC (Oncorhynchus mykiss (rainbow trout))</td>
<td>100 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>28 d</td>
</tr>
<tr>
<td>EC50: &gt; 927 mg/l</td>
<td></td>
</tr>
<tr>
<td>Exposure time</td>
<td>30 min</td>
</tr>
<tr>
<td>Method: ISO 8192</td>
<td></td>
</tr>
</tbody>
</table>

### (dl)-a-Tocopheryl acetate:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>LC50 (Oncorhynchus mykiss (rainbow trout)): &gt; 100 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 203</td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>EC50 (Daphnia magna (Water flea)): &gt; 100 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 48 h</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 202</td>
</tr>
<tr>
<td>Toxicity to algae/aquatic plants</td>
<td>ErC50 (Pseudokirchneriella subcapitata (green algae)): &gt; 100 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 72 h</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td>NOEC (Pseudokirchneriella subcapitata (green algae)): &gt; 100 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 72 h</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 201</td>
</tr>
<tr>
<td>Toxicity to fish (Chronic toxicity)</td>
<td>NOEC (Oncorhynchus mykiss (rainbow trout)): 100 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 28 d</td>
</tr>
<tr>
<td>Toxicity to microorganisms</td>
<td>EC50: &gt; 927 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 30 min</td>
</tr>
<tr>
<td></td>
<td>Method: ISO 8192</td>
</tr>
</tbody>
</table>
# Persistence and degradability

## Components:

### N-Methyl-2-pyrrolidone:

<table>
<thead>
<tr>
<th>Biodegradability</th>
<th>Result: Readily biodegradable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodegradation</td>
<td>73 %</td>
</tr>
<tr>
<td>Exposure time</td>
<td>28 d</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 301C</td>
</tr>
</tbody>
</table>

### Ivermectin:

<table>
<thead>
<tr>
<th>Biodegradability</th>
<th>Result: Not readily biodegradable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodegradation</td>
<td>50 %</td>
</tr>
<tr>
<td>Exposure time</td>
<td>240 d</td>
</tr>
</tbody>
</table>

### abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

<table>
<thead>
<tr>
<th>Stability in water</th>
<th>Hydrolysis: 50 %(&lt; 12 h)</th>
</tr>
</thead>
</table>

### (dl)-a-Tocopheryl acetate:

<table>
<thead>
<tr>
<th>Biodegradability</th>
<th>Result: Not readily biodegradable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodegradation</td>
<td>21.7 - 31 %</td>
</tr>
<tr>
<td>Exposure time</td>
<td>28 d</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 301C</td>
</tr>
</tbody>
</table>

# Bioaccumulative potential

## Components:

### N-Methyl-2-pyrrolidone:

<table>
<thead>
<tr>
<th>Partition coefficient: n-octanol/water</th>
<th>log Pow: -0.46</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>OECD Test Guideline 107</td>
</tr>
</tbody>
</table>

### Ivermectin:

<table>
<thead>
<tr>
<th>Bioaccumulation</th>
<th>Bioconcentration factor (BCF): 74</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: 3.22</td>
</tr>
</tbody>
</table>

### abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

<table>
<thead>
<tr>
<th>Bioaccumulation</th>
<th>Bioconcentration factor (BCF): 52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: 4</td>
</tr>
</tbody>
</table>

# Mobility in soil

## Components:

### abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

| Distribution among environmental compartments | log Koc: > 3.6 |
13. DISPOSAL CONSIDERATIONS

**Disposal methods**
- Waste from residues: Dispose of in accordance with local regulations.
- Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. If not otherwise specified: Dispose of as unused product.

14. TRANSPORT INFORMATION

**International Regulations**

**UNRTDG**
- **UN number**: UN 3082
- **Proper shipping name**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (abamectin (combination of avermectin B1a and avermectin B1b) (ISO), Ivermectin)
- **Class**: 9
- **Packing group**: III
- **Labels**: 9

**IATA-DGR**
- **UN/ID No.**: UN 3082
- **Proper shipping name**: Environmentally hazardous substance, liquid, n.o.s. (abamectin (combination of avermectin B1a and avermectin B1b) (ISO), Ivermectin)
- **Class**: 9
- **Packing group**: III
- **Labels**: Miscellaneous
- **Packing instruction (cargo aircraft)**: 964
- **Packing instruction (passenger aircraft)**: 964
- **Environmentally hazardous**: yes

**IMDG-Code**
- **UN number**: UN 3082
- **Proper shipping name**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (abamectin (combination of avermectin B1a and avermectin B1b) (ISO), Ivermectin)
- **Class**: 9
- **Packing group**: III
- **Labels**: 9
- **EmS Code**: F-A, S-F
- **Marine pollutant**: yes

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
Not applicable for product as supplied.

**National Regulations**
Ivermectin / Abamectin Liquid Formulation

GB 6944/12268
UN number: UN 3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (abamectin (combination of avermectin B1a and avermectin B1b) (ISO), Ivermectin)

Class: 9
Packing group: III
Labels: 9

Special precautions for user
The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. REGULATORY INFORMATION

National regulatory information
Law on the Prevention and Control of Occupational Diseases

The components of this product are reported in the following inventories:

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>AICS</td>
<td>not determined</td>
</tr>
<tr>
<td>DSL</td>
<td>not determined</td>
</tr>
<tr>
<td>IECSC</td>
<td>not determined</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

Further information

Date format: yyyy/mm/dd

Full text of other abbreviations
ACGIH BEI: ACGIH - Biological Exposure Indices (BEI)

AIIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; ICS0 - Half maximal inhibitory con-
Ivermectin / Abamectin Liquid Formulation

Version 5.3  
Revision Date: 2021/08/27  
SDS Number: 1210005-00013  
Date of last issue: 2021/04/26  
Date of first issue: 2017/01/10

centration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

CN / EN