

**Deltamethrin (5%) Formulation**

|         |                |               |                                 |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number:   | Date of last issue: 09.10.2020  |
| 4.2     | 07.12.2020     | 2333307-00011 | Date of first issue: 12.12.2017 |

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name : Deltamethrin (5%) Formulation

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

Use of the Sub-  
stance/Mixture : Veterinary product

**1.3 Details of the supplier of the safety data sheet**

Company : MSD  
20 Spartan Road  
1619 Spartan, South Africa

Telephone : +27119239300

Telefax : 908-735-1496

E-mail address of person  
responsible for the SDS : EHSDATASTEWARD@msd.com

**1.4 Emergency telephone number**

1-908-423-6000

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**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

|                                                                |                                                                                  |
|----------------------------------------------------------------|----------------------------------------------------------------------------------|
| Flammable liquids, Category 3                                  | H226: Flammable liquid and vapour.                                               |
| Acute toxicity, Category 4                                     | H302: Harmful if swallowed.                                                      |
| Skin irritation, Category 2                                    | H315: Causes skin irritation.                                                    |
| Serious eye damage, Category 1                                 | H318: Causes serious eye damage.                                                 |
| Skin sensitisation, Category 1                                 | H317: May cause an allergic skin reaction.                                       |
| Germ cell mutagenicity, Category 1B                            | H340: May cause genetic defects.                                                 |
| Carcinogenicity, Category 1B                                   | H350: May cause cancer.                                                          |
| Reproductive toxicity, Category 2                              | H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child. |
| Specific target organ toxicity - single exposure, Category 3   | H336: May cause drowsiness or dizziness.                                         |
| Specific target organ toxicity - repeated exposure, Category 2 | H373: May cause damage to organs through prolonged or repeated exposure.         |
| Aspiration hazard, Category 1                                  | H304: May be fatal if swallowed and enters airways.                              |
| Short-term (acute) aquatic hazard, Category 1                  | H400: Very toxic to aquatic life.                                                |
| Long-term (chronic) aquatic hazard, Category 1                 | H410: Very toxic to aquatic life with long lasting effects.                      |

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**2.2 Label elements****Labelling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :



Signal word : Danger

Hazard statements :

- H226 Flammable liquid and vapour.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H336 May cause drowsiness or dizziness.
- H340 May cause genetic defects.
- H350 May cause cancer.
- H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
- 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.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.  
P391 Collect spillage.

Hazardous components which must be listed on the label:

Solvent naphtha (petroleum), light aromatic  
Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts  
2-Methyl-1-propanol  
deltamethrin (ISO)

**Additional Labelling**

Restricted to professional users.

**2.3 Other hazards**

Vapours may form explosive mixture with air.

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**SECTION 3: Composition/information on ingredients****3.2 Mixtures****Components**

| Chemical name                                             | CAS-No.<br>EC-No.<br>Index-No.<br>Registration number | Classification                                                                                                                                                                                                                                                                                                                                                                                       | Concentration<br>(% w/w) |
|-----------------------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Solvent naphtha (petroleum), light aromatic               | 64742-95-6<br>265-199-0<br>649-356-00-4               | Flam. Liq. 3; H226<br>Skin Irrit. 2; H315<br>Muta. 1B; H340<br>Carc. 1B; H350<br>STOT SE 3; H336<br>Asp. Tox. 1; H304<br>Aquatic Chronic 2;<br>H411                                                                                                                                                                                                                                                  | >= 30 - < 50             |
| 2-Methoxy-1-methylethyl acetate                           | 108-65-6<br>203-603-9<br>607-195-00-7                 | Flam. Liq. 3; H226<br>STOT SE 3; H336                                                                                                                                                                                                                                                                                                                                                                | >= 20 - < 30             |
| Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts | Not Assigned<br>271-529-4                             | Skin Irrit. 2; H315<br>Eye Dam. 1; H318<br>Aquatic Chronic 3;<br>H412                                                                                                                                                                                                                                                                                                                                | >= 3 - < 10              |
| 2-Methyl-1-propanol                                       | 78-83-1<br>201-148-0<br>603-108-00-1                  | Flam. Liq. 3; H226<br>Skin Irrit. 2; H315<br>Eye Dam. 1; H318<br>STOT SE 3; H336<br>STOT SE 3; H335                                                                                                                                                                                                                                                                                                  | >= 3 - < 10              |
| deltamethrin (ISO)                                        | 52918-63-5<br>258-256-6<br>607-319-00-X               | Acute Tox. 3; H301<br>Acute Tox. 3; H331<br>Eye Irrit. 2; H319<br>Skin Sens. 1A;<br>H317<br>Repr. 2; H361fd<br>STOT SE 3; H335<br>STOT RE 1; H372<br>(Central nervous system, Immune system)<br>STOT RE 1; H372<br>(Central nervous system)<br>Aquatic Acute 1;<br>H400<br>Aquatic Chronic 1;<br>H410<br><br>M-Factor (Acute aquatic toxicity):<br>1.000.000<br>M-Factor (Chronic aquatic toxicity): | >= 3 - < 10              |

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|  |  |           |  |
|--|--|-----------|--|
|  |  | 1.000.000 |  |
|--|--|-----------|--|

For explanation of abbreviations see section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- |                            |   |                                                                                                                                                                                                                                                 |
|----------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General advice             | : | In the case of accident or if you feel unwell, seek medical advice immediately.<br>When symptoms persist or in all cases of doubt seek medical advice.                                                                                          |
| 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).                                                                     |
| If inhaled                 | : | If inhaled, remove to fresh air.<br>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.<br>Get medical attention.<br>Wash clothing before reuse.<br>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.<br>If easy to do, remove contact lens, if worn.<br>Get medical attention immediately.                                                                  |
| If swallowed               | : | If swallowed, DO NOT induce vomiting.<br>If vomiting occurs have person lean forward.<br>Call a physician or poison control centre immediately.<br>Rinse mouth thoroughly with water.<br>Never give anything by mouth to an unconscious person. |

#### 4.2 Most important symptoms and effects, both acute and delayed

- |       |   |                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Risks | : | Harmful if swallowed.<br>May be fatal if swallowed and enters airways.<br>Causes skin irritation.<br>May cause an allergic skin reaction.<br>Causes serious eye damage.<br>May cause drowsiness or dizziness.<br>May cause genetic defects.<br>May cause cancer.<br>Suspected of damaging fertility. Suspected of damaging the unborn child.<br>May cause damage to organs through prolonged or repeated exposure. |
|-------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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

- |           |   |                                         |
|-----------|---|-----------------------------------------|
| Treatment | : | Treat symptomatically and supportively. |
|-----------|---|-----------------------------------------|

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**SECTION 5: Firefighting measures****5.1 Extinguishing media**

Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : High volume water jet

**5.2 Special hazards arising from the substance or mixture**

Specific hazards during fire-fighting : Do not use a solid water stream as it may scatter and spread fire.  
Flash back possible over considerable distance.  
Vapours may form explosive mixtures with air.  
Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides  
Nitrogen oxides (NO<sub>x</sub>)  
Bromine compounds  
Sulphur oxides  
Metal oxides

**5.3 Advice for firefighters**

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

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.

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Remove all sources of ignition.  
Use personal protective equipment.  
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

**6.2 Environmental precautions**

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 cannot be contained.

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**6.3 Methods and material for containment and cleaning up**

Methods for cleaning up : Non-sparking tools should be used.  
Soak up with inert absorbent material.  
Suppress (knock down) gases/vapours/mists with a water spray jet.  
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked 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.

**6.4 Reference to other sections**

See sections: 7, 8, 11, 12 and 13.

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**SECTION 7: Handling and storage****7.1 Precautions for safe 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.  
Use explosion-proof electrical, ventilating and lighting equipment.

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  
Non-sparking tools should be used.  
Keep container tightly closed.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Take precautionary measures against static discharges.  
Do not eat, drink or smoke when using this product.  
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : 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.  
If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working

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place. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before re-use.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : 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. Keep away from heat and sources of ignition.

Advice on common storage : Do not store with the following product types:  
 Strong oxidizing agents  
 Organic peroxides  
 Flammable solids  
 Pyrophoric liquids  
 Pyrophoric solids  
 Self-heating substances and mixtures  
 Substances and mixtures, which in contact with water, emit flammable gases  
 Explosives  
 Gases

### 7.3 Specific end use(s)

Specific use(s) : No data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

| Components                             | CAS-No.    | Value type (Form of exposure) | Control parameters               | Basis      |
|----------------------------------------|------------|-------------------------------|----------------------------------|------------|
| 2-Methoxy-1-methylethyl acetate        | 108-65-6   | TWA                           | 50 ppm<br>275 mg/m <sup>3</sup>  | 2000/39/EC |
|                                        |            | STEL                          | 100 ppm<br>550 mg/m <sup>3</sup> | 2000/39/EC |
| 2-Methyl-1-propanol                    | 78-83-1    | TWA OEL-RL                    | 50 ppm<br>150 mg/m <sup>3</sup>  | ZA OEL     |
| Further information: Recommended Limit |            |                               |                                  |            |
|                                        |            | STEL OEL-RL                   | 75 ppm<br>225 mg/m <sup>3</sup>  | ZA OEL     |
| Further information: Recommended Limit |            |                               |                                  |            |
| deltamethrin (ISO)                     | 52918-63-5 | TWA                           | 15 µg/m <sup>3</sup> (OEB 3)     | Internal   |
| Further information: DSEN, Skin        |            |                               |                                  |            |
|                                        |            | Wipe limit                    | 150 µg/100 cm <sup>2</sup>       | Internal   |

#### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

| Substance name      | End Use | Exposure routes | Potential health effects | Value                 |
|---------------------|---------|-----------------|--------------------------|-----------------------|
| 2-Methyl-1-propanol | Workers | Inhalation      | Long-term local ef-      | 310 mg/m <sup>3</sup> |

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|                                                           |           |              | fects                      |                  |
|-----------------------------------------------------------|-----------|--------------|----------------------------|------------------|
|                                                           | Consumers | Inhalation   | Long-term local effects    | 55 mg/m3         |
| Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts | Workers   | Skin contact | Long-term systemic effects | 1,7 mg/kg bw/day |
|                                                           | Consumers | Skin contact | Long-term systemic effects | 85 mg/kg bw/day  |
|                                                           | Consumers | Ingestion    | Long-term systemic effects | 89 mg/kg bw/day  |
| 2-Methoxy-1-methylethyl acetate                           | Workers   | Inhalation   | Long-term systemic effects | 275 mg/m3        |
|                                                           | Workers   | Skin contact | Long-term systemic effects | 796 mg/kg bw/day |
|                                                           | Consumers | Inhalation   | Long-term systemic effects | 33 mg/m3         |
|                                                           | Consumers | Skin contact | Long-term systemic effects | 320 mg/kg bw/day |
|                                                           | Consumers | Ingestion    | Long-term systemic effects | 36 mg/kg bw/day  |
|                                                           | Workers   | Inhalation   | Acute local effects        | 550 mg/m3        |
|                                                           | Consumers | Inhalation   | Long-term local effects    | 33 mg/m3         |

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

| Substance name                                            | Environmental Compartment | Value                         |
|-----------------------------------------------------------|---------------------------|-------------------------------|
| 2-Methyl-1-propanol                                       | Fresh water               | 0,4 mg/l                      |
|                                                           | Marine water              | 0,04 mg/l                     |
|                                                           | Intermittent use/release  | 11 mg/l                       |
|                                                           | Sewage treatment plant    | 10 mg/l                       |
|                                                           | Fresh water sediment      | 1,56 mg/kg dry weight (d.w.)  |
|                                                           | Marine sediment           | 0,156 mg/kg dry weight (d.w.) |
|                                                           | Soil                      | 0,076 mg/kg dry weight (d.w.) |
| Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts | Fresh water               | 0,023 mg/l                    |
|                                                           | Marine water              | 0,002 mg/l                    |
|                                                           | Sewage treatment plant    | 3 mg/l                        |
|                                                           | Fresh water sediment      | 0,174 mg/kg dry weight (d.w.) |
|                                                           | Marine sediment           | 0,017 mg/kg dry weight (d.w.) |
|                                                           | Soil                      | 0,62 mg/kg dry weight (d.w.)  |
|                                                           |                           |                               |
| 2-Methoxy-1-methylethyl acetate                           | Fresh water               | 0,635 mg/l                    |
|                                                           | Marine water              | 0,0635 mg/l                   |
|                                                           | Intermittent use/release  | 6,35 mg/l                     |
|                                                           | Sewage treatment plant    | 100 mg/l                      |
|                                                           | Fresh water sediment      | 3,29 mg/kg dry weight (d.w.)  |
|                                                           | Marine sediment           | 0,329 mg/kg dry weight (d.w.) |
|                                                           |                           |                               |

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|--|------|------------------------------|
|  | Soil | 0,29 mg/kg dry weight (d.w.) |
|--|------|------------------------------|

### 8.2 Exposure controls

#### Engineering measures

Use explosion-proof electrical, ventilating and lighting equipment.

Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less 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

|                          |   |                                                                                                                                                                                                                                                                                                                |
|--------------------------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye protection           | : | Wear safety glasses with side shields or goggles.<br>If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.<br>Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols. |
| Hand protection          | : |                                                                                                                                                                                                                                                                                                                |
| Material                 | : | Chemical-resistant gloves                                                                                                                                                                                                                                                                                      |
| Remarks                  | : | Consider double gloving. Take note that the product is flammable, which may impact the selection of hand protection.                                                                                                                                                                                           |
| Skin and body protection | : | Work uniform or laboratory coat.<br>Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.<br>Use appropriate degowning techniques to remove potentially contaminated clothing.                    |
| 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 (A-P)                                                                                                                                                                                                                                                            |

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|                                         |   |                   |
|-----------------------------------------|---|-------------------|
| Appearance                              | : | liquid            |
| Colour                                  | : | yellow            |
| Odour                                   | : | No data available |
| Odour Threshold                         | : | No data available |
| pH                                      | : | 3 - 5             |
| Melting point/freezing point            | : | No data available |
| Initial boiling point and boiling range | : | No data available |
| Flash point                             | : | 45 - 51 °C        |

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|--------------------------------------------------|---|----------------------------------------------------------|
| Evaporation rate                                 | : | No data available                                        |
| Flammability (solid, gas)                        | : | 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                                        |
| Relative density                                 | : | No data available                                        |
| Density                                          | : | 0,963 - 0,967 g/cm <sup>3</sup>                          |
| Solubility(ies)                                  |   |                                                          |
| Water solubility                                 | : | completely miscible                                      |
| Partition coefficient: n-octanol/water           | : | No data available                                        |
| 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. |

**9.2 Other information**

|                        |   |                   |
|------------------------|---|-------------------|
| Flammability (liquids) | : | Not applicable    |
| Molecular weight       | : | No data available |
| Particle size          | : | Not applicable    |

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**SECTION 10: Stability and reactivity****10.1 Reactivity**

Not classified as a reactivity hazard.

**10.2 Chemical stability**

Stable under normal conditions.

**10.3 Possibility of hazardous reactions**

|                     |   |                                                                                                                         |
|---------------------|---|-------------------------------------------------------------------------------------------------------------------------|
| Hazardous reactions | : | Flammable liquid and vapour.<br>Vapours may form explosive mixture with air.<br>Can react with strong oxidizing agents. |
|---------------------|---|-------------------------------------------------------------------------------------------------------------------------|

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**10.4 Conditions to avoid**

Conditions to avoid : Heat, flames and sparks.

**10.5 Incompatible materials**

Materials to avoid : Oxidizing agents

**10.6 Hazardous decomposition products**

No hazardous decomposition products are known.

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**SECTION 11: Toxicological information****11.1 Information on toxicological effects**

Information on likely routes of exposure : Inhalation  
Skin contact  
Ingestion  
Eye contact

**Acute toxicity**

Harmful if swallowed.

**Product:**

Acute oral toxicity : Acute toxicity estimate: 1.334 mg/kg  
Method: Calculation method

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

**Components:****Solvent naphtha (petroleum), light aromatic:**

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5,61 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg

**2-Methoxy-1-methylethyl acetate:**

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LC0 (Rat): 9,48 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg

**Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:**

Acute oral toxicity : LD50 (Rat): 4.445 mg/kg

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Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg  
Method: OECD Test Guideline 402  
Remarks: Based on data from similar materials

**2-Methyl-1-propanol:**

Acute oral toxicity : LD50 (Rat): 3.350 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 24,6 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): 2.460 mg/kg  
Method: OECD Test Guideline 402

**deltamethrin (ISO):**

Acute oral toxicity : LD50 (Rat): 66,7 mg/kg  
LD50 (Rat): 9 - 139 mg/kg  
LD50 (Mouse): 19 - 34 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0,8 mg/l  
Exposure time: 2 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): 2.000 mg/kg  
LD50 (Rat): > 800 mg/kg

Acute toxicity (other routes of administration) : LD50 (Rat): 2,5 mg/kg  
Application Route: Intravenous  
LD50 (Mouse): 10 mg/kg  
Application Route: Intraperitoneal

**Skin corrosion/irritation**

Causes skin irritation.

**Components:****Solvent naphtha (petroleum), light aromatic:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : Skin irritation

**2-Methoxy-1-methylethyl acetate:**

Species : Rabbit  
Result : No skin irritation

**Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:**

**Deltamethrin (5%) Formulation**

|         |                |               |                                 |
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|         |   |                         |
|---------|---|-------------------------|
| Species | : | Rabbit                  |
| Method  | : | OECD Test Guideline 404 |
| Result  | : | Skin irritation         |

**2-Methyl-1-propanol:**

|         |   |                         |
|---------|---|-------------------------|
| Species | : | Rabbit                  |
| Method  | : | OECD Test Guideline 404 |
| Result  | : | Skin irritation         |

**deltamethrin (ISO):**

|         |   |                    |
|---------|---|--------------------|
| Species | : | Rabbit             |
| Result  | : | No skin irritation |

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Components:****Solvent naphtha (petroleum), light aromatic:**

|         |   |                         |
|---------|---|-------------------------|
| Species | : | Rabbit                  |
| Method  | : | OECD Test Guideline 405 |
| Result  | : | No eye irritation       |

**2-Methoxy-1-methylethyl acetate:**

|         |   |                   |
|---------|---|-------------------|
| Species | : | Rabbit            |
| Result  | : | No eye irritation |

**Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:**

|         |   |                                 |
|---------|---|---------------------------------|
| Species | : | Rabbit                          |
| Method  | : | OECD Test Guideline 405         |
| Result  | : | Irreversible effects on the eye |

**2-Methyl-1-propanol:**

|         |   |                                 |
|---------|---|---------------------------------|
| Species | : | Rabbit                          |
| Method  | : | OECD Test Guideline 405         |
| Result  | : | Irreversible effects on the eye |

**deltamethrin (ISO):**

|         |   |                         |
|---------|---|-------------------------|
| Species | : | Rabbit                  |
| Result  | : | Moderate eye irritation |

**Respiratory or skin sensitisation****Skin sensitisation**

May cause an allergic skin reaction.

**Respiratory sensitisation**

Not classified based on available information.

**Deltamethrin (5%) Formulation**

|         |                |               |                                 |
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**Components:****Solvent naphtha (petroleum), light aromatic:**

|                 |                |
|-----------------|----------------|
| Test Type       | : Buehler Test |
| Exposure routes | : Skin contact |
| Species         | : Guinea pig   |
| Result          | : negative     |

**2-Methoxy-1-methylethyl acetate:**

|                 |                           |
|-----------------|---------------------------|
| Test Type       | : Maximisation Test       |
| Exposure routes | : Skin contact            |
| Species         | : Guinea pig              |
| Method          | : OECD Test Guideline 406 |
| Result          | : negative                |

**Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:**

|                 |                                        |
|-----------------|----------------------------------------|
| Test Type       | : Magnusson-Kligman-Test               |
| Exposure routes | : Skin contact                         |
| Species         | : Guinea pig                           |
| Method          | : OECD Test Guideline 406              |
| Remarks         | : Based on data from similar materials |

**2-Methyl-1-propanol:**

|                 |                                        |
|-----------------|----------------------------------------|
| Test Type       | : Maximisation Test                    |
| Exposure routes | : Skin contact                         |
| Species         | : Guinea pig                           |
| Result          | : negative                             |
| Remarks         | : Based on data from similar materials |

**deltamethrin (ISO):**

|                 |                     |
|-----------------|---------------------|
| Test Type       | : Maximisation Test |
| Exposure routes | : Dermal            |
| Species         | : Guinea pig        |
| Result          | : negative          |

|                 |                                          |
|-----------------|------------------------------------------|
| Test Type       | : Human repeat insult patch test (HRIPT) |
| Exposure routes | : Dermal                                 |
| Species         | : Humans                                 |
| Result          | : positive                               |

**Germ cell mutagenicity**

May cause genetic defects.

**Components:****Solvent naphtha (petroleum), light aromatic:**

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

|  |                                                       |
|--|-------------------------------------------------------|
|  | Test Type: In vitro mammalian cell gene mutation test |
|  | Result: positive                                      |

**Deltamethrin (5%) Formulation**

|         |                |               |                                 |
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Genotoxicity in vivo : Test Type: Sister chromatid exchange analysis in spermatogonia  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: positive

Germ cell mutagenicity- Assessment : Positive result(s) from in vivo heritable germ cell mutagenicity tests in mammals

**2-Methoxy-1-methylethyl acetate:**

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)  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Result: negative  
Remarks: Based on data from similar materials

**Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: Directive 67/548/EEC, Annex, B.13/14  
Result: negative  
Remarks: Based on data from similar materials

**2-Methyl-1-propanol:**

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

Test Type: Chromosome aberration test in vitro  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Result: negative

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

**deltamethrin (ISO):**

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

Test Type: DNA Repair  
Test system: Escherichia coli  
Result: negative

**Deltamethrin (5%) Formulation**

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Test Type: Chromosomal aberration  
Test system: Chinese hamster ovary cells  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Test system: Chinese hamster lung cells  
Concentration: LOAEL: 20 mg/kg  
Result: positive

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse  
Application Route: Oral  
Result: negative

Test Type: dominant lethal test  
Species: Mouse  
Application Route: Oral  
Result: negative

Test Type: sister chromatid exchange assay  
Species: Mouse  
Cell type: Bone marrow  
Application Route: Oral  
Result: negative

**Carcinogenicity**

May cause cancer.

**Components:****Solvent naphtha (petroleum), light aromatic:**

Species : Mouse  
Application Route : Skin contact  
Exposure time : 2 Years  
Result : positive

Carcinogenicity - Assessment : Sufficient evidence of carcinogenicity in animal experiments

**2-Methoxy-1-methylethyl acetate:**

Species : Rat  
Application Route : inhalation (vapour)  
Exposure time : 2 Years  
Result : negative  
Remarks : Based on data from similar materials

**deltamethrin (ISO):**

Species : Mouse, male and female  
Application Route : oral (feed)  
Exposure time : 104 weeks  
NOAEL : 8 mg/kg body weight  
LOAEL : 4 mg/kg body weight  
Result : positive  
Target Organs : Lymph nodes

**Deltamethrin (5%) Formulation**

|         |                |               |                                 |
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|                   |                        |
|-------------------|------------------------|
| Species           | : Rat, male and female |
| Application Route | : oral (feed)          |
| Exposure time     | : 2 Years              |
| Result            | : negative             |

|                   |                        |
|-------------------|------------------------|
| Species           | : Dog, male and female |
| Application Route | : oral (feed)          |
| Exposure time     | : 2 Years              |
| NOAEL             | : 1 mg/kg body weight  |
| Result            | : negative             |

**Reproductive toxicity**

Suspected of damaging fertility. Suspected of damaging the unborn child.

**Components:****Solvent naphtha (petroleum), light aromatic:**

|                      |                                                                 |
|----------------------|-----------------------------------------------------------------|
| Effects on fertility | : Test Type: Reproduction/Developmental toxicity screening test |
|                      | Species: Rat                                                    |
|                      | Application Route: inhalation (vapour)                          |
|                      | Result: negative                                                |

|                               |                                        |
|-------------------------------|----------------------------------------|
| Effects on foetal development | : Test Type: Embryo-foetal development |
|                               | Species: Rat                           |
|                               | Application Route: inhalation (vapour) |
|                               | Result: negative                       |

**2-Methoxy-1-methylethyl acetate:**

|                      |                                                         |
|----------------------|---------------------------------------------------------|
| Effects on fertility | : Test Type: Two-generation reproduction toxicity study |
|                      | Species: Rat                                            |
|                      | Application Route: inhalation (vapour)                  |
|                      | Method: OECD Test Guideline 416                         |
|                      | Result: negative                                        |
|                      | Remarks: Based on data from similar materials           |

|                               |                                        |
|-------------------------------|----------------------------------------|
| Effects on foetal development | : Test Type: Embryo-foetal development |
|                               | Species: Rat                           |
|                               | Application Route: inhalation (vapour) |
|                               | Result: negative                       |

**2-Methyl-1-propanol:**

|                      |                                                         |
|----------------------|---------------------------------------------------------|
| Effects on fertility | : Test Type: Two-generation reproduction toxicity study |
|                      | Species: Rat                                            |
|                      | Application Route: inhalation (vapour)                  |
|                      | Method: OPPTS 870.3800                                  |
|                      | Result: negative                                        |

|                               |                                        |
|-------------------------------|----------------------------------------|
| Effects on foetal development | : Test Type: Embryo-foetal development |
|                               | Species: Rat                           |
|                               | Application Route: inhalation (vapour) |
|                               | Method: OECD Test Guideline 414        |

## Deltamethrin (5%) Formulation

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Result: negative

### deltamethrin (ISO):

#### Effects on fertility

: Test Type: Three-generation reproduction toxicity study  
 Species: Rat  
 Application Route: oral (feed)  
 Early Embryonic Development: NOAEL: 50 mg/kg body weight  
 Symptoms: No effects on fertility, Embryo-foetal toxicity  
 Remarks: Significant toxicity observed in testing

Test Type: Two-generation reproduction toxicity study  
 Species: Rat  
 Application Route: Oral  
 Early Embryonic Development: LOAEL: 84 - 149 mg/kg body weight  
 Symptoms: No effects on fertility, Embryo-foetal toxicity

Test Type: Fertility  
 Species: Rat, male  
 Application Route: Oral  
 Fertility: LOAEL: 1 mg/kg body weight  
 Symptoms: Effects on fertility  
 Target Organs: Testes

#### Effects on foetal development

: Test Type: Development  
 Species: Mouse  
 Application Route: oral (gavage)  
 Developmental Toxicity: LOAEL: 1 mg/kg body weight  
 Result: Skeletal malformations  
 Remarks: Maternal toxicity observed.

Test Type: Development  
 Species: Rat, female  
 Developmental Toxicity: NOAEL: 10 mg/kg body weight  
 Symptoms: No effects on foetal development

Test Type: Development  
 Species: Rabbit, female  
 Application Route: oral (gavage)  
 Developmental Toxicity: NOAEL: 16 mg/kg body weight  
 Symptoms: No effects on foetal development

#### Reproductive toxicity - Assessment

: Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

### STOT - single exposure

May cause drowsiness or dizziness.

### Components:

#### Solvent naphtha (petroleum), light aromatic:

Assessment : May cause drowsiness or dizziness.

**Deltamethrin (5%) Formulation**

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**2-Methoxy-1-methylethyl acetate:**

Assessment : May cause drowsiness or dizziness.

**2-Methyl-1-propanol:**

Assessment : May cause respiratory irritation., May cause drowsiness or dizziness.

**deltamethrin (ISO):**

Assessment : May cause respiratory irritation.

**STOT - repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

**Components:****deltamethrin (ISO):**

Exposure routes : Ingestion  
Target Organs : Central nervous system, Immune system  
Assessment : Causes damage to organs through prolonged or repeated exposure.

Exposure routes : inhalation (dust/mist/fume)  
Target Organs : Central nervous system  
Assessment : Causes damage to organs through prolonged or repeated exposure.

**Repeated dose toxicity****Components:****Solvent naphtha (petroleum), light aromatic:**

Species : Rat  
LOAEL : 500 mg/kg  
Application Route : Ingestion  
Exposure time : 28 Days

**2-Methoxy-1-methylethyl acetate:**

Species : Rat  
NOAEL : > 1.000 mg/kg  
Application Route : Ingestion  
Exposure time : 41 - 45 Days  
Method : OECD Test Guideline 422

Species : Mouse  
NOAEL : 1,62 mg/l  
Application Route : inhalation (vapour)  
Exposure time : 2 yr  
Remarks : Based on data from similar materials

Species : Rabbit  
NOAEL : > 1.838 mg/kg  
Application Route : Skin contact

**Deltamethrin (5%) Formulation**

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Exposure time : 90 Days  
Remarks : Based on data from similar materials

**2-Methyl-1-propanol:**

Species : Rat  
NOAEL : > 1.450 mg/kg  
Application Route : Ingestion  
Exposure time : 90 Days  
Method : OECD Test Guideline 408

**deltamethrin (ISO):**

Species : Rat, male and female  
NOAEL : 1 mg/kg  
LOAEL : 2,5 mg/kg  
Application Route : Oral  
Exposure time : 13 Weeks  
Target Organs : Nervous system  
Symptoms : hyperexcitability

Species : Rat  
LOAEL : 3 mg/m<sup>3</sup>  
Application Route : inhalation (dust/mist/fume)  
Exposure time : 2 wk / 5 d/wk / 6 h/d  
Symptoms : Local irritation, respiratory tract irritation

Species : Dog  
NOAEL : 0,1 mg/kg  
LOAEL : 1 mg/kg  
Application Route : Oral  
Exposure time : 13 Weeks  
Target Organs : Nervous system  
Symptoms : Dilatation of the pupil, Vomiting, Tremors, Diarrhoea, Salivation

Species : Rat  
NOAEL : 14 mg/kg  
LOAEL : 54 mg/kg  
Application Route : Oral  
Exposure time : 91 d  
Target Organs : Nervous system

Species : Mouse  
LOAEL : 6 mg/kg  
Application Route : Oral  
Exposure time : 12 Weeks  
Target Organs : Immune system  
Symptoms : immune system effects

**Aspiration toxicity**

May be fatal if swallowed and enters airways.

**Deltamethrin (5%) Formulation**

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**Product:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

**Components:****Solvent naphtha (petroleum), light aromatic:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

**2-Methyl-1-propanol:**

The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

**Experience with human exposure****Components:****deltamethrin (ISO):**

|              |   |                                                                                                                                                                                   |
|--------------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhalation   | : | Symptoms: respiratory tract irritation, Dizziness, Sweating, Headache, Nausea, Vomiting, anorexia, Fatigue, tingling, Palpitation, Blurred vision, muscle twitching               |
| Skin contact | : | Symptoms: Skin irritation, Erythema, pruritis, Headache, Nausea, Vomiting, Dizziness, tingling, Sweating, muscle twitching, Blurred vision, Fatigue, anorexia, Allergic reactions |
| Ingestion    | : | Symptoms: muscle pain, Small pupils                                                                                                                                               |

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**SECTION 12: Ecological information****12.1 Toxicity****Components:****Solvent naphtha (petroleum), light aromatic:**

|                                                     |   |                                                                                                                                                                         |
|-----------------------------------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to fish                                    | : | LC50 (Pimephales promelas (fathead minnow)): 8,2 mg/l<br>Exposure time: 96 h<br>Test substance: Water Accommodated Fraction                                             |
| Toxicity to daphnia and other aquatic invertebrates | : | EL50 (Daphnia magna (Water flea)): 4,5 mg/l<br>Exposure time: 48 h<br>Test substance: Water Accommodated Fraction<br>Method: OECD Test Guideline 202                    |
| Toxicity to algae/aquatic plants                    | : | EL50 (Pseudokirchneriella subcapitata (microalgae)): 3,1 mg/l<br>Exposure time: 96 h<br>Test substance: Water Accommodated Fraction<br>Method: OECD Test Guideline 201  |
|                                                     | : | NOELR (Pseudokirchneriella subcapitata (microalgae)): 0,5 mg/l<br>Exposure time: 96 h<br>Test substance: Water Accommodated Fraction<br>Method: OECD Test Guideline 201 |

## Deltamethrin (5%) Formulation

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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR: 2,6 mg/l  
 Exposure time: 21 d  
 Species: Daphnia magna (Water flea)  
 Test substance: Water Accommodated Fraction  
 Method: OECD Test Guideline 211

### 2-Methoxy-1-methylethyl acetate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 - 180 mg/l  
 Exposure time: 96 h  
 Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l  
 Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1.000 mg/l  
 Exposure time: 96 h  
 Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (algae)): > 1.000 mg/l  
 Exposure time: 96 h  
 Method: OECD Test Guideline 201

Toxicity to microorganisms : EC10 : > 1.000 mg/l  
 Exposure time: 0,5 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: >= 100 mg/l  
 Exposure time: 21 d  
 Species: Daphnia magna (Water flea)  
 Method: OECD Test Guideline 211

### Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Toxicity to fish : LC50 : > 1 - < 10 mg/l  
 Exposure time: 96 h  
 Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l  
 Exposure time: 48 h  
 Method: OECD Test Guideline 202  
 Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 10 - 100 mg/l  
 Exposure time: 96 h  
 Remarks: Based on data from similar materials

NOEC (Pseudokirchneriella subcapitata (green algae)): > 0,1 - 1 mg/l  
 Exposure time: 96 h  
 Remarks: Based on data from similar materials

Toxicity to fish (Chronic tox- : NOEC: > 0,1 - 1 mg/l

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**Deltamethrin (5%) Formulation**

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icity)

Toxicity to fish (Chronic toxicity) : NOEC: 0,000022 mg/l  
Exposure time: 36 d  
Species: Pimephales promelas (fathead minnow)

NOEC: 0,000017 mg/l  
Exposure time: 260 d  
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,0041 µg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 1.000.000

**12.2 Persistence and degradability****Components:****Solvent naphtha (petroleum), light aromatic:**

Biodegradability : Result: Inherently biodegradable.  
Biodegradation: 94 %  
Exposure time: 25 d

**2-Methoxy-1-methylethyl acetate:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 90 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

**Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 100 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

**2-Methyl-1-propanol:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 70 - 80 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D

**deltamethrin (ISO):**

Stability in water : Hydrolysis: 0 %(30 d)

**12.3 Bioaccumulative potential****Components:****2-Methoxy-1-methylethyl acetate:**

**Deltamethrin (5%) Formulation**

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Partition coefficient: n-octanol/water : log Pow: 1,2

**Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:**

Partition coefficient: n-octanol/water : log Pow: 2,89

**2-Methyl-1-propanol:**

Partition coefficient: n-octanol/water : log Pow: 1

**deltamethrin (ISO):**

Bioaccumulation : Species: *Lepomis macrochirus* (Bluegill sunfish)  
Bioconcentration factor (BCF): 1.800

Partition coefficient: n-octanol/water : log Pow: 4,6

**12.4 Mobility in soil****Components:****deltamethrin (ISO):**

Distribution among environmental compartments : log Koc: 7,2

**12.5 Results of PBT and vPvB assessment**

Not relevant

**12.6 Other adverse effects**

No data available

**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

|                        |                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product                | : Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.                                                                                                                                     |
| Contaminated packaging | : Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product. |

**SECTION 14: Transport information****14.1 UN number**

|     |           |
|-----|-----------|
| ADN | : UN 1993 |
| ADR | : UN 1993 |
| RID | : UN 1993 |

## Deltamethrin (5%) Formulation

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**IMDG** : UN 1993

**IATA** : UN 1993

### 14.2 UN proper shipping name

**ADN** : FLAMMABLE LIQUID, N.O.S.  
(Solvent naphtha (petroleum), light aromatic, 2-Methoxy-1-methylethyl acetate)

**ADR** : FLAMMABLE LIQUID, N.O.S.  
(Solvent naphtha (petroleum), light aromatic, 2-Methoxy-1-methylethyl acetate)

**RID** : FLAMMABLE LIQUID, N.O.S.  
(Solvent naphtha (petroleum), light aromatic, 2-Methoxy-1-methylethyl acetate)

**IMDG** : FLAMMABLE LIQUID, N.O.S.  
(Solvent naphtha (petroleum), light aromatic, 2-Methoxy-1-methylethyl acetate, deltamethrin (ISO))

**IATA** : Flammable liquid, n.o.s.  
(Solvent naphtha (petroleum), light aromatic, 2-Methoxy-1-methylethyl acetate)

### 14.3 Transport hazard class(es)

**ADN** : 3

**ADR** : 3

**RID** : 3

**IMDG** : 3

**IATA** : 3

### 14.4 Packing group

**ADN**  
Packing group : III  
Classification Code : F1  
Hazard Identification Number : 30  
Labels : 3

**ADR**  
Packing group : III  
Classification Code : F1  
Hazard Identification Number : 30  
Labels : 3  
Tunnel restriction code : (D/E)

**RID**  
Packing group : III  
Classification Code : F1  
Hazard Identification Number : 30  
Labels : 3

**IMDG**  
Packing group : III  
Labels : 3

**Deltamethrin (5%) Formulation**

|         |                |               |                                 |
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EmS Code : F-E, S-E

**IATA (Cargo)**

Packing instruction (cargo aircraft) : 366

Packing instruction (LQ) : Y344

Packing group : III

Labels : Flammable Liquids

**IATA (Passenger)**

Packing instruction (passenger aircraft) : 355

Packing instruction (LQ) : Y344

Packing group : III

Labels : Flammable Liquids

**14.5 Environmental hazards**

**ADN**

Environmentally hazardous : yes

**ADR**

Environmentally hazardous : yes

**RID**

Environmentally hazardous : yes

**IMDG**

Marine pollutant : yes

**14.6 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.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Remarks : Not applicable for product as supplied.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

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

AICS : not determined

DSL : not determined

IECSC : not determined

**15.2 Chemical safety assessment**

A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

Other information : Items where changes have been made to the previous version

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are highlighted in the body of this document by two vertical lines.

**Full text of H-Statements**

|        |                                                                                |
|--------|--------------------------------------------------------------------------------|
| H226   | : Flammable liquid and vapour.                                                 |
| H301   | : Toxic if swallowed.                                                          |
| H304   | : May be fatal if swallowed and enters airways.                                |
| H315   | : Causes skin irritation.                                                      |
| H317   | : May cause an allergic skin reaction.                                         |
| H318   | : Causes serious eye damage.                                                   |
| H319   | : Causes serious eye irritation.                                               |
| H331   | : Toxic if inhaled.                                                            |
| H335   | : May cause respiratory irritation.                                            |
| H336   | : May cause drowsiness or dizziness.                                           |
| H340   | : May cause genetic defects.                                                   |
| H350   | : May cause cancer.                                                            |
| H361fd | : Suspected of damaging fertility. Suspected of damaging the unborn child.     |
| H372   | : Causes damage to organs through prolonged or repeated exposure if inhaled.   |
| H372   | : Causes damage to organs through prolonged or repeated exposure if swallowed. |
| H400   | : Very toxic to aquatic life.                                                  |
| H410   | : Very toxic to aquatic life with long lasting effects.                        |
| H411   | : Toxic to aquatic life with long lasting effects.                             |
| H412   | : Harmful to aquatic life with long lasting effects.                           |

**Full text of other abbreviations**

|                      |                                                                                                                      |
|----------------------|----------------------------------------------------------------------------------------------------------------------|
| Acute Tox.           | : Acute toxicity                                                                                                     |
| Aquatic Acute        | : Short-term (acute) aquatic hazard                                                                                  |
| Aquatic Chronic      | : Long-term (chronic) aquatic hazard                                                                                 |
| Asp. Tox.            | : Aspiration hazard                                                                                                  |
| Carc.                | : Carcinogenicity                                                                                                    |
| Eye Dam.             | : Serious eye damage                                                                                                 |
| Eye Irrit.           | : Eye irritation                                                                                                     |
| Flam. Liq.           | : Flammable liquids                                                                                                  |
| Muta.                | : Germ cell mutagenicity                                                                                             |
| Repr.                | : Reproductive toxicity                                                                                              |
| Skin Irrit.          | : Skin irritation                                                                                                    |
| Skin Sens.           | : Skin sensitisation                                                                                                 |
| STOT RE              | : Specific target organ toxicity - repeated exposure                                                                 |
| STOT SE              | : Specific target organ toxicity - single exposure                                                                   |
| 2000/39/EC           | : Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values |
| ZA OEL               | : South Africa. Hazardous Chemical Substances Regulations, Occupational Exposure Limits                              |
| 2000/39/EC / TWA     | : Limit Value - eight hours                                                                                          |
| 2000/39/EC / STEL    | : Short term exposure limit                                                                                          |
| ZA OEL / TWA OEL-RL  | : Long term occupational exposure limits - recommended limit                                                         |
| ZA OEL / STEL OEL-RL | : Short term occupational exposure limits - recommended limit                                                        |

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation;

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Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; IC50 - Half maximal inhibitory concentration; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance 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

**Further information**

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

**Classification of the mixture:**

|                   |        |
|-------------------|--------|
| Flam. Liq. 3      | H226   |
| Acute Tox. 4      | H302   |
| Skin Irrit. 2     | H315   |
| Eye Dam. 1        | H318   |
| Skin Sens. 1      | H317   |
| Muta. 1B          | H340   |
| Carc. 1B          | H350   |
| Repr. 2           | H361fd |
| STOT SE 3         | H336   |
| STOT RE 2         | H373   |
| Asp. Tox. 1       | H304   |
| Aquatic Acute 1   | H400   |
| Aquatic Chronic 1 | H410   |

**Classification procedure:**

|                                     |
|-------------------------------------|
| Based on product data or assessment |
| Calculation method                  |
| Calculation method                  |
| Calculation method                  |
| Calculation method                  |
| Calculation method                  |
| Calculation method                  |
| Calculation method                  |
| Calculation method                  |
| Based on product data or assessment |
| Calculation method                  |
| Calculation method                  |

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