


SAFETY DATA SHEET

| 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING | | | |
|---|--|---|----------------|
| Trade name: | Permethrin | PR-No.: | |
| Usage: | NA | | |
| Date: | 18-02-2011 | SDS Version: | 1.0 |
| Contact: | Jan Skov Nørby | E-mail: | jsn@r2group.eu |
| Company and address: | R2 Group A/S Odinsvej 25 DK-8722 Hedensted tlf: +45 76752100 fax: +45 75890828 | Emergency telephone: Use your national or local emergency number See section 4 "First aid measures" | |

| 2. HAZARD IDENTIFICATION | | | | | | |
|---------------------------------------|---|---|------------------------|---|-----------|---|
| Danger symbol: |  | | | | | |
| Signal word: | Warning! | | | | | |
| Classification: | Acute Tox. 4, Aquatic Chronic 1, Skin Sens. 1 | | | | | |
| Risk etc.: | Harmful if swallowed. May cause an allergic skin reaction. Harmful if inhaled. Very toxic to aquatic life with long lasting effects. | | | | | |
| Contains: | m-phenoxybenzyl-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylat | | | | | |
| P-phrases (precautionary statements): | General: | Keep out of reach of children. If medical advice is needed, have product container or label at hand. | | | | |
| | Prevention: | Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapours/spray. | | | | |
| | Response: | IF ON SKIN: Wash with plenty of soap and water. | | | | |
| | Storage: | - | | | | |
| | Disposal: | Dispose of contents/container to ... | | | | |
| Additional warnings: | - | | | | | |
| Additional labelling: | - | | | | | |
| Further: | - | | | | | |
| VOC | VOC _{max} : | NA | VOC _{limit} : | - | Category: | - |
| DPD/DSD Classification: | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.(R50/53). Harmful by inhalation and if swallowed.(R20/22). May cause sensitisation by skin contact.(R43). | | | | | |

| 3. COMPOSITION/INFORMATION ON INGREDIENTS | |
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| NAME: | m-phenoxybenzyl-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylat |
| IDENTIFICATION NOS.: | CAS-no: 52645-53-1 EC-no: 258-067-9 Index-no: 613-058-00-2 |
| CONTENT: | 80-95% |
| DSD CLASSIFICATION: | Xn; R20/22 R43 N; R50-53 |
| CLP CLASSIFICATION: | Acute tox. 4, Skin Sens. 1, Aquatic Acute 1, Aquatic Chronic 1 H302, H317, H332, H400, H410 (M = 1000) |
| (*) See full text of H-phrases in chapter 16. Occupational limits are listed in section 8, if these are available. | |
| (**) Explanation: | |

| 4. FIRST AID MEASURES | |
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| General information: | Contact a doctor, if in doubt about the injured person's condition or if the symptoms continue. Never give an unconscious person water or similar. In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet. The doctor can contact the Work Environment Medical Clinic at Bispebjerg Hospital, tlf. 35 31 60 60 |
| After inhalation: | Get the injured person into fresh air. Make sure there is always someone with the injured person. Prevent shock by keeping the injured person warm and calm. If the person stops breathing, give mouth-to-mouth resuscitation. If unconscious, roll the injured person onto side with the top leg bent at both knee and hip. Call an ambulance. |
| After skin contact: | Remove contaminated clothing and shoes at once. Skin that has come in contact with the material must be washed thoroughly with water and soap. Skin cleanser can be used. DO NOT use solvents or thinners. |
| After eye contact: | Remove contact lenses. Flush eyes immediately with plenty of water (20-30°C) for at least 15 minutes and continue until irritation stops. Make sure you flush under the upper and lower eyelids. If irritation continues, contact a doctor. |
| After swallowing: | In the case of ingestion, contact a doctor immediately and take this safety data sheet or the label from the material with you. If the person is conscious, give them water. DO NOT try to induce vomiting, unless this is recommended by a doctor. Hold head facing down so that no vomit runs back into the mouth and throat. Prevent shock by keeping the injured person warm and calm. Give mouth-to-mouth resuscitation if breathing stops. If unconscious, roll the injured person onto side with the top leg bent at both knee and hip. Call an ambulance. |
| Burning: | Pour water until the pain stops and continue for 30 minutes. |
| Information to medics: | Bring this safety data sheet. |

| 5. Fire-fighting measures | |
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| Fire will result in thick black smoke. Exposure to catabolic products can damage your health. Fire fighters should use proper protection gear. Closed containers, which are exposed to fire, should be cooled with water. Do not let fire-extinguishing water run into sewers and other water courses. | |
| Suitable extinguishing measures: | Recommended: alcohol-resistant foam, carbonic acid, powder, water mist. Water jets should not be used, since they can spread the fire. |
| Fire degradation products: | Halogenated compounds Carbon oxides. |
| Special protective equipment for fire fighting: | Wear self-contained breathing apparatus and protective clothing to prevent contact. |

| 6. ACCIDENTAL RELEASE MEASURES | |
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| Personal precautions: | Avoid inhalation of vapours from waste material. See section on "Exposure checks/personal protective gear" for protective measures. |
| Environmental precautions: | Consider putting up waste collecting trays/basins to prevent leakage to the surroundings. Avoid discharge to lakes, streams, sewers, etc. In the event of a leakage to the surroundings, contact the local environmental authorities. Limit spillage and collect using granulate or similar, and dispose of it in accordance with the regulations on dangerous waste. Cleaning should be done as far as possible using normal cleaning agents. Solvents should be avoided. See section on "Disposal" with regard to the handling of waste. |
| Methods for cleaning up/taking up: | Use sand, sawdust, earth, vermiculite, diatomaceous earth to contain and collect non-combustible absorbent materials and place in container for disposal, according to local regulations. |

| 7. HANDLING AND STORAGE | |
|--------------------------------|--|
| Handling: | See section on "Exposure checks/personal protective gear" for information on personal protection. |
| Storage temperature: | NA |
| Storage: | Must be kept in a dry, cool and ventilated place. Always store in containers of the same material as the original. |

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| Advice on protection against fire and explosion: | - |
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| 8. EXPOSURE CONTROLS/PERSONAL PROTECTION | | | | | | | | |
|---|--|------------|---------------------------|--------------------------|-----------|-------------------|------|--------|
| General recommendations: | Smoking, consumption of food or liquid, and storage of tobacco, food or liquid, are not allowed in the workroom. | | | | | | | |
| Exposure scenarios: | If there is an appendix to this safety data sheet, the indicated exposure scenarios must be complied. | | | | | | | |
| Exposure limits: | Trade users are covered by the rules of the working environment legislation on maximum concentrations for exposure. See work hygiene threshold values below. | | | | | | | |
| Exposure controls: | Compliance with the stated exposure limits values should be checked on a regular basis. See Danish Working Environment Authority guideline, D.7.1. May 2001. | | | | | | | |
| Engineering measures: | Airborne gas and dust concentrations must be kept as low as possible and below the current threshold values (see below). Use for example an exhaust system if the normal air flow in the work room is not sufficient. Make sure that eyewash and emergency showers are clearly marked. | | | | | | | |
| Hygiene measures: | Whenever you take a break in using this product and when you have finished using it, all exposed areas of the body must be washed. Always wash hands, forearms and face. | | | | | | | |
| Exposure limits values: | Name | STEL (ppm) | STEL (mg/m ³) | TWA (mg/m ³) | TWA (ppm) | Note [#] | Year | Source |
| | | | | | | | | |
| PNEC / DNEL | | | | | | | | |
| #) Explanation(s): | NA | | | | | | | |
| Adequate personal protective equipment: | | | | | | | | |
| Generally: | Insofar as the work process is covered by the Executive Order on work with coded products (Danish Working Environment Authority's Executive Order No. 302/1993), protection gear must be chosen in accordance with this. See the product's code in the section on "information on regulation". | | | | | | | |
| Respiratory Equipment: | If the ventilation at the work place is not sufficient, use a half or whole mask with an appropriate filter or an air-supplied respiratory protector. The choice depends on the concrete work situation and how long you will be using the product. | | | | | | | |
| Skin protection: | Special work clothing should be used. | | | | | | | |
| Hand protection: | Recommended: Plast handsker . Breakthrough time: NA | | | | | | | |
| Eye protection: | No specific requirements. | | | | | | | |
| Measures to avoid environmental exposure: | Keep damming materials near the workplace. If possible collect spillage during work. | | | | | | | |

| 9. PHYSICAL AND CHEMICAL PROPERTIES | | | | |
|-------------------------------------|-----------|----------------------|-----|------------------------------|
| Form: | Colour: | Odour: | pH: | Density, g/cm ³ : |
| Liquid | Yellowish | Characteristic | | |
| Viscosity: | | | | |
| | | | | |
| Phase changes | | | | |
| Melting point °C: | | Boiling point °C: | | Vapour pressure: |
| 34 | | 277,3 | | - |
| Data on fire and explosion hazards | | | | |
| Flashpoint °C: | | Ignition °C: | | Self ignition °C: |
| 100 | | | | - |
| Explosive properties | | Oxidizing properties | | |
| - | | - | | |
| Solubility | | | | |
| Soluble in water | | Solubility in fat | | n-octanol/water coefficient |
| Soluble | | - | | - |

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| 10. STABILITY AND REACTIVITY | |
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| Stability: | The product is stable under the conditions, noted in the section on "Handling and storage". |
| Conditions and materials to avoid | Strong acids, strong bases, strong oxidising agents, and strong catabolic agents. |
| Hazardous decomposition products: | If the product is exposed to high temperatures, as in the case of fire, dangerous catabolic substances are produced. These are: Halogenated compounds Carbon oxides. |

| 11. TOXICOLOGICAL INFORMATION | | | | | |
|-------------------------------|--|-----|------|------------|------------------|
| Acute toxicity: | Substance | Art | Test | Route | Result |
| | m-phenoxybenzyl-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylat | Rat | LC50 | Inhalation | >4638 mg/l (MAC) |
| | m-phenoxybenzyl-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylat | Rat | LD50 | Dermal | >2000 mg/kg bw |
| | m-phenoxybenzyl-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylat | Rat | LD50 | Oral | 554 mg/kg bw |
| Long term causes: | Sensitivity effects: This product contains substances which can give an allergic reaction on contact with skin. The allergic reaction will typically set in 12-72 hours after exposure as the substance penetrates the skin and reacts with proteins in the outer skin. The body's immune system sees the chemically changed protein as a foreign body and will try to destroy it. | | | | |

| 12. ECOLOGICAL INFORMATION | | | | | |
|-------------------------------------|---|---------------------------|--------|---------|-------------|
| Persistence: | Substance | Biodegradable | Test | | Result |
| | No data available. | | | | |
| Bioaccumulations: | Substance | Potential bioaccumulation | Test | | |
| | | | LogPow | BCF | |
| | No data available. | | | | |
| Ecotoxic effects: | Substance | Art | Test | Period | Result |
| | m-phenoxybenzyl-3-(2,2-dichlorvinyl)-2,2-dimethylcyclopropanecarboxylat | Algae | EC50 | 72 hour | >0,022 mg/l |
| | m-phenoxybenzyl-3-(2,2-dichlorvinyl)-2,2-dimethylcyclopropanecarboxylat | Fish | LC50 | 96 hour | 0,145 mg/l |
| | m-phenoxybenzyl-3-(2,2-dichlorvinyl)-2,2-dimethylcyclopropanecarboxylat | Fish | LC50 | 96 hour | 8,9 |
| | m-phenoxybenzyl-3-(2,2-dichlorvinyl)-2,2-dimethylcyclopropanecarboxylat | Daphnia | EC50 | 24 hour | microgram/l |
| | m-phenoxybenzyl-3-(2,2-dichlorvinyl)-2,2-dimethylcyclopropanecarboxylat | | | | 0,020 mg/l |
| Negative effects: | This product contains substances w hich can cause undesirable long-term effects in the w ater environment, due to its poor biodegradability.This product contains ecotoxic substances w hich can have damaging effects on w ater - organisms. | | | | |
| Mobility in soil: | No data available | | | | |
| Results of PBT and vPvB assessment: | No data available | | | | |

| 13. DISPOSAL CONSIDERATIONS | | | |
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| The product is covered by the regulations on dangerous waste. | | | |
| Waste: | EWC-code | | |
| | | | |
| Other labelling: | - | | |
| Contaminated packing: | Packaging which contains leftovers from the product must be disposed of in the same way as the product. | | |

14. TRANSPORT INFORMATION

This product is covered by the conventions on dangerous goods.

| ADR/RID | UN-nr. | Proper Shipping Name | Class | PG* | Notes |
|---------|--------|----------------------|-------|-----|-------|
| | 3352 | | 6.1 | III | |

| IMDG | UN-no. | Proper Shipping Name | Class | PG* | EmS | MP | Hazardous constituent |
|------|--------|--|-------|-----|-----|-----|-----------------------|
| | 3352 | PYRETHROID, LIQUID, TOXIC (PERMETHRIN) | 6.1 | III | | YES | (PERMETHRIN) |

* Packing group

2036010270, R2 Group A/S 15. REGULATORY INFORMATION

| | |
|---------------------------------|--|
| Restrictions for application: | People under the age of 18 must not be exposed to this product cf. Council Directive 94/33/EC. For exceptions, see the Danish Working Environment Authority's Executive Order No. 239 of 6 April 2005. |
| Demands for specific education: | No specific requirements. |
| Chemical safety assessment | No |

16. OTHER INFORMATION

| | |
|--|---|
| Sources: | EC regulation 1907/2006 (REACH) Directive 2000/532/EC EC Regulation 1272/2008 (CLP) |
| Full text of R-phrases as mentioned in section 3: | H410 - Very toxic to aquatic life with long lasting effects. H400 - Very toxic to aquatic life. H332 - Harmful if inhaled. H317 - May cause an allergic skin reaction. H302 - Harmful if swallowed. |
| <p>It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.</p> <p>The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.</p> <p>A change (in proportion to the last essential change (first cipher in SDS version)) is marked with a blue triangle.</p> <p>This safety data sheet is based on available information/data at the time of the preparation.</p> | |
| Safety data sheet is validated by: | Jan Skov Nørby |
| Date of last essential change (First cipher in SDS version) | - |
| Date of last minor change (Last cipher in SDS version) | - |

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