MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product information

Product name : Indoxacarb 150G/L SC
Synonyms : DPX-MP062 150SC : B10596921
Use of the Substance/Mixture : Insecticide
Company : Global Agrichem Limited (N.Z)
38 Whitaker place, Symonds Street, Auckland, NZ

Telephone : +64 09 9729837
Telefax : +64 09 3531736

E-mail address : export@hongyichemical.com
Supplier : Global Agrichem Limited (N.Z)
38 Whitaker place, Symonds Street, Auckland, NZ

Telephone : +64 09 9729837

2. HAZARDS IDENTIFICATION

Harmful if swallowed.
May cause sensitization by skin contact.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Classification</th>
<th>Concentration [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyethylene Oxide Mono&lt;Tris(Alpha-Methylbenzyl)Phenyl&gt;Ether</td>
<td>99734-09-5</td>
<td>R52/53</td>
<td>&gt;= 15 - &lt; 20</td>
<td></td>
</tr>
<tr>
<td>Indoxacarb (S-Enantiomer)</td>
<td>173584-44-6</td>
<td>T; R25</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>R43</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>N; R50/53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indoxacarb, (R-enantiomer)</td>
<td>185608-75-7</td>
<td>Xn; R22</td>
<td>14,4925</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>R43</td>
<td></td>
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<td></td>
<td></td>
<td>N; R50/53</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
For the full text of the R-phrases mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

General advice : Never give anything by mouth to an unconscious person.

Inhalation : Remove person to fresh air. If signs/symptoms continue, get medical attention. Artificial respiration and/or oxygen may be necessary.

Skin contact : Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water. In the case of skin irritation or allergic reactions see a physician. Wash contaminated clothing before re-use.

Eye contact : Hold eye open and rinse slowly and gently with water for 15-20 minutes. If eye irritation persists, consult a specialist.

Ingestion : Obtain medical attention. DO NOT induce vomiting unless directed to do so by a physician or poison control center. If victim is conscious: Rinse mouth with water.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray, Foam, Dry chemical, Carbon dioxide (CO2),

Extinguishing media which shall not be used for safety reasons : High volume water jet, (contamination risk),

Specific hazards during fire fighting : Hazardous decomposition products formed under fire conditions. Carbon dioxide (CO2) nitrogen oxides (NOx)

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

Further information : Prevent fire extinguishing water from contaminating surface water or the ground water system. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

(On small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers / tanks with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Control access to area. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ventilate spill area. Take precautionary measures against static discharges. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Use appropriate container to avoid environmental contamination. Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained. If the spill area is porous, the contaminated material must be collected for subsequent treatment or disposal. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods for cleaning up:

- Clean-up methods - small spillage: Prevent further leakage or spillage. Soak up with inert absorbent material. Shovel into suitable container for disposal.

- Clean-up methods - large spillage: Prevent further leakage or spillage. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Large spills should be collected mechanically (remove by pumping) for disposal. Collect leaking liquid in sealable (metal/plastic) containers. Collect and contain contaminated absorbent and dike material for disposal.

Additional advice:

- Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

7. HANDLING AND STORAGE

Handling:

Advice on safe handling:

- Use only according to our recommendations. Wear personal protective equipment. For personal protection see section 8. Use only clean equipment. Provide adequate ventilation. Do not breathe vapours or spray mist. When opening containers, avoid breathing vapours that may be emanating. Prepare the working solution as given on the label(s) and/or the user instructions. Use prepared working solution as soon as possible - Do not store. To avoid spills during handling keep bottle on a metal tray. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Never return unused material to storage receptacle. Avoid exceeding of the given occupational exposure limits (see section 8).

Advice on protection against fire and explosion:

- Keep away from heat and sources of ignition.

Storage:

Requirements for storage areas and containers:

- Store in original container. Keep in properly labelled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

Advice on common storage:

- No special restrictions on storage with other products.

Storage temperature:

- > 3 °C

Other data:

- Protect from freezing.
  
  Stable under recommended storage conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures:

Ensure adequate ventilation, especially in confined areas. Contains no substances with occupational exposure limit values.

Personal protective equipment:

Respiratory protection: Hand protection

Respiratory protection
Eye protection

- Manufacturing and processing work: Half mask with vapour filter A2 (EN 141)
- Field and greenhouse application: Half mask with combination filter A2/P2 (EN 141)

- Material: Nitrile rubber
  - Glove thickness: 0.4 - 0.7 mm
  - Wearing time: 480 min

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

- Safety glasses with side-shields conforming to EN166

Skin and body protection

- Manufacturing and processing work: Full protective clothing Type 5 + 6 (EN ISO 13982-2 / EN 13034)
- Field and greenhouse application: Full protective clothing Type 3 (EN 14605)

Hygiene measures

- Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing. Keep working clothes separately. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product. When using do not eat, drink or smoke. Keep away from food, drink and animal feedingstuffs. Remove clothing/PPE immediately if material gets inside. For environmental protection remove and wash all contaminated protective equipment before re-use. Dispose of rinse water in accordance with local and national regulations.

Protective measures

- The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. All chemical protective clothing should be visually inspected prior to use. Clothing and gloves should be replaced in case of chemical or physical damage or if contaminated. Only protected handlers may be in the area during application.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Form: liquid, suspension,
- Colour: light cream,
Odour: oily,
pH: 3.7 at 10 g/l
Flash point: > 103.3 °C
Oxidizing properties: The product is not oxidizing.
Explosive properties: Not explosive
Density: 1.039 g/cm³ at 20 °C
Solubility/qualitative: dispersible
Partition coefficient: n-octanol/water: log Pow: 4.65

10. STABILITY AND REACTIVITY

Materials to avoid: No materials to be especially mentioned.
Hazardous reactions: No dangerous reaction known under conditions of normal use. Polymerization will not occur. No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity: LD50/ rat male: 3619 mg/kg Method: OECD Test Guideline 401 (Data on the product itself) Information source: Internal study report
LD50/ rat female: 751 mg/kg Method: OECD Test Guideline 401 (Data on the product itself) Information source: Internal study report
Acute inhalation toxicity: LC50/ 4 h / rat : > 2.7 mg/l Method: OECD Test Guideline 403 (Data on the product itself) Information source: Internal study report
Acute dermal toxicity: LD50/ rat : > 5,000 mg/kg Method: OECD Test Guideline 402 (Data on the product itself) Information source: Internal study report
Skin irritation: rabbit Result: No skin irritation Method: OECD Test Guideline 404 (Data on the product itself) Information source: Internal study report
Eye irritation: rabbit Result: No eye irritation Method: OECD Test Guideline 405 (Data on the product itself) Information source: Internal study report
Sensitisation

Repeated dose toxicity
- The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.
  - Inhalation rat
    - Incoordination mortality
    - Red blood cell destruction causing abnormal decrease in number of red blood cells (anaemia)
  - Inhalation rat
    - Incoordination
    - Increased mortality or reduced survival Information source: Internal study report

Mutagenicity assessment
- Indoxacarb (S-Enantiomer): Tests on bacterial or mammalian cell cultures did not show mutagenic effects., Did not cause genetic damage in animals.

Carcinogenicity assessment
- Indoxacarb (S-Enantiomer): Did not show carcinogenic effects in animal experiments.

Toxicity to reproduction assessment
- Indoxacarb (S-Enantiomer): Animal testing did not show any effects on fertility.

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradability
- Not readily biodegradable. Estimation based on data obtained on active ingredient.

Bioaccumulation
- This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Ecotoxicity effects

Toxicity to fish
- LC50/96 h/ Oncorhynchus mykiss (rainbow trout): > 8 mg/l Method: OECD Test Guideline 203 (Data on the product itself) Information source: Internal study report

Toxicity to algae
- EC50/72 h/ Pseudokirchneriella subcapitata (green algae): > 4,1 mg/l Method: OECD Test Guideline 201 (Data on the product itself) Information source: Internal study report

Toxicity to daphnia
13. DISPOSAL CONSIDERATIONS

Product : In accordance with local and national regulations. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging : Do not re-use empty containers.

European Waste Catalogue number : 020108: agrochemical waste containing dangerous substances

14. TRANSPORT INFORMATION

ADR
Class: 9
Packaging group: III
Classification Code: M6
HI No:: 90
UN-Number: 3082
Labelling No.: 9
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Indoxacarb)

IATA_C
Class: 9
Packaging group: III
UN-Number: 3082
Labelling No.: 9MI
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Indoxacarb)

IMDG
Class: 9
Packaging group: III
UN-Number: 3082
Labelling No.: 9
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Indoxacarb)

Marine pollutant: Marine pollutant

15. REGULATORY INFORMATION

Labelling according to EC Directives
Symbol(s) : Xn Harmful
           N Dangerous for the environment

Hazardous components: Indoxacarb (S-Enantiomer)
                     Indoxacarb, (R-enantiomer)

R-phrase(s) : R22 Harmful if swallowed.
              R43 May cause sensitization by skin contact.
              R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrase(s) :  
S2  Keep out of the reach of children.
S13 Keep away from food, drink and animal feedingstuffs.
S20/21 When using do not eat, drink or smoke.
S24 Avoid contact with skin.
S35 This material and its container must be disposed of in a safe way.
S37 Wear suitable gloves.
S46 If swallowed, seek medical advice immediately and show this container or label.
S57 Use appropriate container to avoid environmental contamination.
SP 1 Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).

Special labelling of certain mixtures :  To avoid risks to man and the environment, comply with the instructions for use.

16. OTHER INFORMATION

Text of R-phrases mentioned in Section 3

R22 Harmful if swallowed.
R25 Toxic if swallowed.
R43 May cause sensitization by skin contact.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or if the material is altered or processed, unless specified in the text.