SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier
Trade name Movento® Energy Insecticide
Product code (UVP) 79424051

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

1.3 Details of the supplier of the safety data sheet
Supplier Bayer Cropscience Pty Ltd
ABN 87 000 226 022
Level 1, 8 Redfern Road
3123 Hawthorn East
Victoria
Australia

Telephone (03) 9248 6888
Telefax (03) 9248 6800
Responsible Department 1800 804 479 Technical Information Service
Website www.crop.bayer.com.au

1.4 Emergency telephone no.
Emergency telephone no. 1800 033 111 IXOM Operations Pty Ltd

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Classification in accordance with Australian GHS Regulation
Skin sensitisation: Category 1
H317 May cause an allergic skin reaction.
Reproductive toxicity: Category 2
H361 Suspected of damaging fertility or the unborn child.
Acute aquatic toxicity: Category 1
H400 Very toxic to aquatic life.
Chronic aquatic toxicity: Category 1
H410 Very toxic to aquatic life with long lasting effects.

2.2 Label elements
Hazard label for supply/use required.

Hazardous components which must be listed on the label:
Imidacloprid
Spirotetramat

Signal word: Warning

Hazard statements
H317 May cause an allergic skin reaction.
H361 Suspected of damaging fertility or the unborn child.

Precautionary statements

P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing mist/spray.
P280 Wear protective gloves/protective clothing.
P302 + P352 IF ON SKIN: Wash with plenty of water/soap.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local regulation.

2.3 Other hazards
No other hazards known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature
Imidacloprid 120 g/l + Spirotetramat 120 g/l
Suspension concentrate (=flowable concentrate)(SC)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imidacloprid</td>
<td>138261-41-3</td>
<td>11.00</td>
</tr>
<tr>
<td>Spirotetramat</td>
<td>203313-25-1</td>
<td>11.00</td>
</tr>
<tr>
<td>Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one</td>
<td>55965-84-9</td>
<td>&gt; 0.0002 - &lt; 0.0015</td>
</tr>
<tr>
<td>1,2-Benzisothiazol-3(2H)-one</td>
<td>2634-33-5</td>
<td>&gt; 0.005 - &lt; 0.05</td>
</tr>
<tr>
<td>Other ingredients (non-hazardous) to 100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (telephone 13 11 26), and follow the advice given. Show this Safety Data Sheet to the doctor.

4.1 Description of first aid measures

**General advice**
Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.

**Inhalation**
Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.

**Skin contact**
Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.
Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

Ingestion
Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed
Symptoms
If large amounts are ingested, the following symptoms may occur:
Nausea, Abdominal pain, Dizziness

4.3 Indication of any immediate medical attention and special treatment needed
Treatment
Treat symptomatically. Monitor: respiratory and cardiac functions. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. There is no specific antidote.

SECTION 5. FIRE FIGHTING MEASURES

5.1 Extinguishing media
Suitable
Water spray, Carbon dioxide (CO2), Foam, Sand

5.2 Special hazards arising from the substance or mixture
In the event of fire the following may be released: Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NOx)

5.3 Advice for firefighters
Special protective equipment for firefighters
In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.

Further information
Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Evacuate personnel to safe areas. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Whenever possible, contain fire-fighting water by diking area with sand or earth.

Hazchem Code
•3Z

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Precautions
Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke. Use personal protective equipment. Keep unauthorized people away.

6.2 Environmental precautions
Contain contaminated water and fire fighting water. Do not allow to get into surface water, drains and ground water. If the product contaminates rivers and lakes or drains inform respective authorities.
6.3 Methods and materials for containment and cleaning up

Methods for cleaning up
Clean contaminated floors and objects thoroughly, observing environmental regulations. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Decontaminate tools and equipment following cleanup.

6.4 Reference to other sections
Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Advice on safe handling
Use only in area provided with appropriate exhaust ventilation.

Hygiene measures
Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands immediately after work, if necessary take a shower. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt).

7.2 Conditions for safe storage, including any incompatibilities
Advice on common storage
Keep away from food, drink and animal feedingstuffs.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imidacloprid</td>
<td>138261-41-3</td>
<td>0.7 mg/m³ (TWA)</td>
<td></td>
<td>OES BCS*</td>
</tr>
<tr>
<td>Spirotetramat</td>
<td>203313-25-1</td>
<td>1.4 mg/m³ (SK-SENI)</td>
<td></td>
<td>OES BCS*</td>
</tr>
</tbody>
</table>

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

8.2 Exposure controls

Respiratory protection
Respiratory protection is not required under anticipated circumstances of exposure. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer’s instructions regarding wearing and maintenance.

Hand protection
Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0.4 mm). Wash when contaminated and dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and
always before eating, drinking, smoking or using the toilet.

Eye protection  Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

Skin and body protection  Wear standard coveralls and Category 3 Type 4 suit.
If there is a risk of significant exposure, consider a higher protective type suit.
Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.
If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer.

General protective measures  In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the above mentioned recommendations would apply.

Engineering Controls
Advice on safe handling  Use only in area provided with appropriate exhaust ventilation.

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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form</strong></td>
<td>suspension</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>white to beige</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>weak, characteristic</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>4.0 - 5.0 at 100 % (23 °C)</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>&gt; 100 °C</td>
</tr>
<tr>
<td><strong>Ignition temperature</strong></td>
<td>455 °C</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>ca. 1.09 g/cm³ at 20 °C</td>
</tr>
<tr>
<td><strong>Water solubility</strong></td>
<td>miscible</td>
</tr>
</tbody>
</table>
| **Partition coefficient: n-octanol/water** | Imidacloprid: log Pow: 0.57  
                                      | Spirotetramat: log Pow: 2.5 at pH 7                                    |
| **Viscosity, dynamic**          | 350 - 650 mPa.s at 23 °C Velocity gradient 7.5 /s                      |
| **Surface tension**             | 30 mN/m at 25 °C                                                      |
| **Oxidizing properties**        | No oxidizing properties                                               |
| **Explosivity**                 | Not explosive                                                         |
| **92/69/EEC, A.14 / OECD 113**   | 92/69/EEC, A.14 / OECD 113                                             |

9.2 Other information  Further safety related physical-chemical data are not known.
SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity
Thermal decomposition: Stable under normal conditions.

10.2 Chemical stability: Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions: No hazardous reactions when stored and handled according to prescribed instructions.

10.4 Conditions to avoid: Extremes of temperature and direct sunlight.

10.5 Incompatible materials: Store only in the original container.

10.6 Hazardous decomposition products: No decomposition products expected under normal conditions of use.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute oral toxicity: LD50 (Rat) > 2,000 mg/kg
Acute inhalation toxicity: LC50 (Rat) > 2.76 mg/l
Exposure time: 4 h
Determined in the form of a respirable aerosol.
Highest attainable concentration.

Acute dermal toxicity: LD50 (Rat) > 2,000 mg/kg
Skin irritation: No skin irritation (Rabbit)
Eye irritation: Slight irritant effect - does not require labelling (Rabbit)
Sensitisation: Sensitising (Guinea pig)
The value mentioned relates to the active ingredient spirotetramat.

Assessment mutagenicity
Imidacloprid was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.
Spirotetramat was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment carcinogenicity
Imidacloprid was not carcinogenic in lifetime feeding studies in rats and mice.
Spirotetramat was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment toxicity to reproduction
Imidacloprid caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Imidacloprid is related to parental toxicity.
Spirotetramat caused male reproductive toxicity in the presence of general toxicity in the rat at very high experimental dose levels. There were no effects on male fertility in mice and dogs. The reproductive toxicity seen with Spirotetramat is due to an overwhelmed elimination capacity at high doses. The high dose levels needed for this effect cannot be achieved even in a worst case exposure scenario.
Assessment developmental toxicity
Imidacloprid caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Imidacloprid are related to maternal toxicity. Spirotetramat caused developmental toxicity only at dose levels toxic to the dams. Spirotetramat caused a delayed foetal growth, an increased incidence of variations.

Assessment STOT Specific target organ toxicity – single exposure
Imidacloprid: Based on available data, the classification criteria are not met.
Spirotetramat: May cause respiratory irritation.

Assessment STOT Specific target organ toxicity – repeated exposure
Imidacloprid did not cause specific target organ toxicity in experimental animal studies. Spirotetramat did not cause specific target organ toxicity in experimental animal studies.

Aspiration hazard
Based on available data, the classification criteria are not met.

Information on likely routes of exposure
Harmful if inhaled.
May cause skin irritation. Skin sensitiser
May cause eye irritation.
Harmful if swallowed.

Early onset symptoms related to exposure
Refer to Section 4

Delayed health effects from exposure
Refer to Section 11

Exposure levels and health effects
Refer to Section 4

Interactive effects
Not known

When specific chemical data is not available
Not applicable

Mixture of chemicals
Refer to Section 2.1

Further information
No further toxicological information is available.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity
Toxicity to fish
LC50 (Lepomis macrochirus (Bluegill sunfish)) 15.5 mg/l
Exposure time: 96 h

Toxicity to aquatic
EC50 (Daphnia magna (Water flea)) 112 mg/l
invertebrates

Exposure time: 48 h
EC50 (Chironomus riparius (non-biting midge)) 0.209 mg/l
Exposure time: 48 h

Toxicity to aquatic plants
IC50 (Raphidocelis subcapitata (freshwater green alga)) > 100 mg/l
Growth rate; Exposure time: 72 h

12.2 Persistence and degradability

Biodegradability
Imidacloprid: Not rapidly biodegradable
Spirotetramat: Not rapidly biodegradable

Koc
Imidacloprid: Koc: 225
Spirotetramat: Koc: 289

12.3 Bioaccumulative potential

Bioaccumulation
Imidacloprid: Does not bioaccumulate.
Spirotetramat: Does not bioaccumulate.

12.4 Mobility in soil

Mobility in soil
Imidacloprid: Moderately mobile in soils
Spirotetramat: Moderately mobile in soils

12.5 Other adverse effects

Additional ecological information
No other effects to be mentioned.

SECTION 13. DISPOSAL CONSIDERATIONS

Metal drums and plastic containers:
Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.
Do not reuse container for any other purpose.

SECTION 14. TRANSPORT INFORMATION

ADG

UN number 3082
Transport hazard class(es) 9
Subsidiary Risk None
Packaging group III
Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (IMIDACLOPRID, SPIROTETRAMAT SOLUTION)
Hazchem Code •3Z

According to AU01, Environmentally Hazardous Substances in packagings, IBC or any other receptacle not exceeding 500 kg or 500 L are not subject to the ADG Code.

**IMDG**

<table>
<thead>
<tr>
<th>UN number</th>
<th>3082</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport hazard class(es)</td>
<td>9</td>
</tr>
<tr>
<td>Subsidiary Risk</td>
<td>None</td>
</tr>
<tr>
<td>Packaging group</td>
<td>III</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>YES</td>
</tr>
<tr>
<td>Description of the goods</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (IMIDACLOPRID, SPIROTETRAMAT SOLUTION)</td>
</tr>
</tbody>
</table>

**IATA**

<table>
<thead>
<tr>
<th>UN number</th>
<th>3082</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport hazard class(es)</td>
<td>9</td>
</tr>
<tr>
<td>Subsidiary Risk</td>
<td>None</td>
</tr>
<tr>
<td>Packaging group</td>
<td>III</td>
</tr>
<tr>
<td>Environm. Hazardous Mark</td>
<td>YES</td>
</tr>
<tr>
<td>Description of the goods</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (IMIDACLOPRID, SPIROTETRAMAT SOLUTION)</td>
</tr>
</tbody>
</table>

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994
Australian Pesticides and Veterinary Medicines Authority approval number: 70076

**SUSMP classification (Poison Schedule)**

Schedule 6 (Standard for the Uniform Scheduling of Medicines and Poisons)

## SECTION 16. OTHER INFORMATION

**Trademark information** Movento® is a Registered Trademark of the Bayer Group.

**Abbreviations and acronyms**

- **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
- **ATE**: Acute toxicity estimate
- **AU OEL**: Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)
- **CAS-Nr.**: Chemical Abstracts Service number
- **CEILING**: Ceiling Limit Value
- **Conc.**: Concentration
- **EC-No.**: European community number
- **ECx**: Effective concentration to x %
This SDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.