Section 1: Identification of the Material and Supplier

1.1 Product identifier

Trade name: Sencor® 480 SC Selective Herbicide
Product code (UVP): 04901916

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

Use: Herbicide

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

Acute toxicity: Category 4
H302 Harmful if swallowed.

Eye Damage/Irritation: Category 2A
H319 Causes serious eye irritation.

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:
Metribuzin

Signal word: Warning

Hazard statements
H302 Harmful if swallowed.
H319 Causes serious eye irritation.

Precautionary statements
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear eye protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
P330 Rinse mouth.
P305 + P351 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
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
Metribuzin 480 g/l
Chemical nature Suspension concentrate (=flowable concentrate)(SC)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Concentration [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metribuzin</td>
<td>21087-64-9</td>
<td>41.40</td>
</tr>
<tr>
<td>Glycerine</td>
<td>56-81-5</td>
<td>&gt; 10.00 - &lt; 20.00</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 the victim to fresh air and keep at rest. Oxygen or artificial respiration if needed. Call a physician or poison control center immediately.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

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. Call a physician or poison control center immediately.
Ingestion

Call a physician or poison control center immediately. Rinse mouth. Do NOT induce vomiting. Keep patient warm and at rest. Never give anything by mouth to an unconscious person. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms

No symptoms known or expected.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment

Treat symptomatically. 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, Foam, Carbon dioxide (CO2), Sand

5.2 Special hazards arising from the substance or mixture

In the event of fire the following may be released: Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Sulphur oxides, Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective equipment for firefighters

Wear self-contained breathing apparatus and protective suit.

Further information

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. Do not allow run-off from fire fighting to enter drains or water courses. 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

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

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.
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.
Advice on protection against fire and explosion No special precautions required.
Hygiene measures Avoid contact with skin, eyes and clothing. After each day's use, wash gloves, face shield or goggles and contaminated clothing. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. Garments that cannot be cleaned must be destroyed (burnt).

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers Store in original container and out of the reach of children, preferably in a locked storage area. Keep away from direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place.
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>Metribuzin</td>
<td>21087-64-9</td>
<td>5 mg/m3 (TWA)</td>
<td>12 2011</td>
<td>AU NOEL</td>
</tr>
<tr>
<td>Metribuzin</td>
<td>21087-64-9</td>
<td>0.56 mg/m3 (SK-SEN)</td>
<td></td>
<td>OES BCS*</td>
</tr>
<tr>
<td>Glycerine (Inhalable mist.)</td>
<td>56-81-5</td>
<td>10 mg/m3 (TWA)</td>
<td>12 2011</td>
<td>AU NOEL</td>
</tr>
</tbody>
</table>

*OES BCS: Internal Bayer CropScience "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 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 6 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.

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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
Form
suspension
Colour
white
Odour
weak, characteristic
pH
5.0 - 8.0 at 100 % (23 °C)
Flash point
Not relevant; aqueous solution
Density
c.a. 1.16 g/cm³ at 20 °C
Water solubility
miscible
Partition coefficient: n-octanol/water
Metribuzin: log Pow: 1.6
Viscosity, dynamic
600 - 1,600 mPa·s at 20 °C Velocity gradient 7.5 /s

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
Exposure to moisture.
Elevated temperatures

10.5 Incompatible materials
Strong bases, Ketones, Aldehydes, Oxidizing agents
Store only in the original container.

10.6 Hazardous decomposition products
Thermal decomposition can lead to release of:
Hydrogen cyanide (hydrocyanic acid)
Nitrogen oxides (NOx)
Carbon oxides
Sulphur oxides

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity
LD50 (Rat) 1,078 mg/kg
Test conducted with a similar formulation.

Acute inhalation toxicity
LC50 (Rat) 3.055 mg/l
Exposure time: 4 h (analytical)
Determined in the form of liquid aerosol.
Test conducted with a similar formulation.

Acute dermal toxicity
LD50 (Rat) > 2,000 mg/kg
Test conducted with a similar formulation.

Skin irritation
Slight irritant effect - does not require labelling (Rabbit)
Test conducted with a similar formulation.

Eye irritation
Irritating to eyes (Rabbit)
Test conducted with a similar formulation.

Sensitisation
Non-sensitizing (Guinea pig)
OECD Test Guideline 406, Buehler test
Test conducted with a similar formulation.

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

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

Assessment toxicity to reproduction
Metribuzin 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 Metribuzin is related to parental toxicity.

Assessment developmental toxicity
Metribuzin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Metribuzin are related to maternal toxicity.

Assessment STOT Specific target organ toxicity – repeated exposure
Metribuzin caused specific target organ toxicity in experimental animal studies in the following organ(s):
Liver, Kidney.

**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.
Causes 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 (Oncorhynchus mykiss (rainbow trout)) 74.6 mg/l
  Exposure time: 96 h
  The value mentioned relates to the active ingredient metribuzin.

- LC50 (Leuciscus idus (Golden orfe)) 141.6 mg/l
  Exposure time: 96 h
  The value mentioned relates to the active ingredient metribuzin.

**Toxicity to aquatic invertebrates**

- LC50 (Daphnia magna (Water flea)) 49.6 mg/l
  Exposure time: 48 h
  The value mentioned relates to the active ingredient metribuzin.

**Toxicity to aquatic plants**

- IC50 (Desmodesmus subspicatus (green algae)) 0.021 mg/l
  Growth rate; Exposure time: 72 h
  The value mentioned relates to the active ingredient metribuzin.

**Toxicity to bacteria**

- EC50 (activated sludge) 761 mg/l
  The value mentioned relates to the active ingredient metribuzin.
Toxicity to other organisms

LD50 (Colinus virginianus (Bobwhite quail)) 164 mg/kg
The value mentioned relates to the active ingredient metribuzin.

LD50 (Anas platyrhynchos (Mallard duck)) 460 - 680 mg/kg
The value mentioned relates to the active ingredient metribuzin.

12.2 Persistence and degradability

Biodegradability
Metribuzin: Not rapidly biodegradable
Koc
Metribuzin: Koc: 24 – 106

12.3 Bioaccumulative potential

Bioaccumulation
Metribuzin: Does not bioaccumulate.

12.4 Mobility in soil

Mobility in soil
Metribuzin: 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. (METRIBUZIN 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

| UN number | 3082 |
| Transport hazard class(es) | 9 |
| Subsidiary Risk | None |
| Packaging group | III |
| Marine pollutant | YES |
| Description of the goods | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (METRIBUZIN SOLUTION) |

IATA

| UN number | 3082 |
| Transport hazard class(es) | 9 |
| Subsidiary Risk | None |
| Packaging group | III |
| Environm. Hazardous Mark | YES |
| Description of the goods | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (METRIBUZIN SOLUTION) |

SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994
Australian Pesticides and Veterinary Medicines Authority approval number: 31791

SUSMP classification (Poison Schedule)

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

SECTION 16. OTHER INFORMATION

Trademark information
Sencor® is a Registered Trademark of the Bayer Group.

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.

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 %
- **EINECS** European inventory of existing commercial substances
- **ELINCS** European list of notified chemical substances
- **EN** European Standard
- **EU** European Union
- **IATA** International Air Transport Association
- **IBC** International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
- **ICx** Inhibition concentration to x %
- **IMDG** International Maritime Dangerous Goods
- **LCx** Lethal concentration to x %
- **LDx** Lethal dose to x %
- **LOEC/LOEL** Lowest observed effect concentration/level
- **MARPOL** MARPOL: International Convention for the prevention of marine pollution from ships
- **N.O.S.** Not otherwise specified
- **NOEC/NOEL** No observed effect concentration/level
- **OECD** Organization for Economic Co-operation and Development
- **OES BCS** OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"
- **PEAK** PEAK: Exposure Standard - Peak means a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.
- **RID** Regulations concerning the International Carriage of Dangerous Goods by Rail
- **SK-SEN** Skin sensitiser
- **SKIN_DES** SKIN_DES: Skin notation: Absorption through the skin may be a significant source of exposure.
- **STEL** STEL: Exposure standard - short term exposure limit (STEL): A 15 minute TWA exposure which should not be exceeded at any time during a working day even if the eight-hour TWA average is within the TWA exposure standard. Exposures at the STEL should not be longer than 15 minutes and should not be repeated more than four times per day. There should be at least 60 minutes between successive exposures at the STEL.
- **TWA** TWA: Exposure standard - time-weighted average (TWA): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.
- **UN** United Nations
- **WHO** World health organisation

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