

MATERIAL SAFETY DATA SHEET

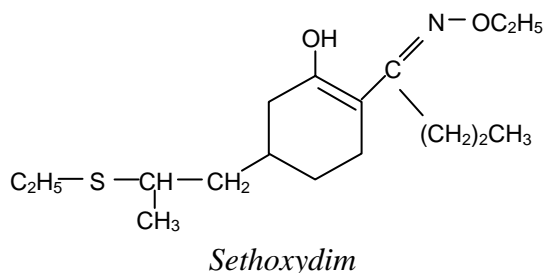
Introductory Details

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Date of preparation : 10 April 2004
Date revised : 11 June 2008

SECTION 1 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Details

Product Name : Sethoxydim 12.5% EC
Trade Name : EXPAND
Chemical Name : 2-[1-(ethoxyimino)butyl]-5-(2-ethylthiopropyl)-3-hydroxy-2-cyclohexen-1-one
Chemical Formula : $C_{17}H_{29}NO_3S$
Molar Mass : 327.5
Chemical Family : Cyclohexane compound
Manufacturer's Code : -
Use : Herbicide
Structural Formula :



1.2 Company Identification

Manufacturer

Name and Address : Agricultural Chemicals (M) Sdn. Bhd.
962, Lorong Perusahaan 8, Taman Perindustrian Perai,
13600 Perai, Pulau Pinang, Malaysia.
Telephone Number : 604-390 7988
Emergency Telephone Number : 604-390 7988

1.3 Contact Point

Designation : Ms. Cheong Wai Ching, Product Support Manager /
En. Ahmad Labib bin Yusof, Administrative Assistant

Tel. No. : 604-390 7988

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SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENT

Chemical Name	CAS No.	Proportion	Exposure Limit	Toxicity Data
2-[1-(ethoxyimino)butyl]-5-(2-ethylthiopropyl)-3-hydroxy-2-cyclohexen-1-one	74051-80-2	12.5 %	No data available	Refer to Section 11
Surfactant	-	< 5 %		
Solvent	-	Balance		

SECTION 3 : PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Pale brown liquid
Odour	: Characteristic odour
Solubility	: Miscible with water
Boiling Point (Technical)	: 191°C
Melting Point	: No data available
Vapour Pressure (Technical)	: 0.85 mmHg at 20°C
Percentage Volatiles	: No data available
Evaporation Rate	: No data available
Vapour Density (Technical; Air = 1)	: 4.7
Specific Gravity	: 0.87
Flash Point	: 60°C
Autoignition temperature	: No data available
Flammable Limit	: No data available

SECTION 4 : HAZARD IDENTIFICATION

Harmful by inhalation
Irritating to eyes and skin

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SECTION 5 : FIRST AID MEASURES

Ingestion : If swallowed, induce vomiting after drinking saline water. Get medical attention immediately.

Eye contact : Immediately flush with plenty of water. Get medical attention.

Skin contact : Remove contaminated clothing and wash skin thoroughly with soap and water.

Inhalation : Remove patient to fresh air. Get medical attention.

Notes to physician :

Poisoning symptoms : Irritating to eyes, nose, throat and skin.

Medical treatment : Treatment is symptomatic.

SECTION 6 : FIRE FIGHTING MEASURES

Extinguishing Media : CO₂, foam, dry chemical powder.

Fire fighting instruction : Fire fighters should wear full-faced self contained breathing apparatus and protective clothing.

Special hazards : Handle as a combustible liquid.

SECTION 7 : ACCIDENTAL RELEASE MEASURE

Leak and/or Spill :

Wear protective clothing. Eliminate ignition source. Ventilate area. Absorb spills with inert material such as clay, sand, earth, sawdust etc. and collect in a drum. Cover up the contaminated area with household detergent and small amount of water. Brush the slurry and spread inert absorbents on the slurry liquid and collect the absorbed material in a drum. Seal drum and dispose of. Do not contaminate water resources.

SECTION 8 : HANDLING AND STORAGE

Handling : Read the label before use. Wear pesticide respiratory masks, protective gloves and clothing while handling.

Storage : Keep in original container, tightly closed, in a cool dry and well-ventilated place, out of reach of children. Keep away from foodstuffs and animal feeds. Avoid fire and sources of ignition. Avoid breathing vapour.

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SECTION 9 : EXPOSURE CONTROL AND PERSONAL PROTECTION

- a. Exposure Limit : No data available
b. Engineering measures : Local exhaust ventilation
c. Personal protection : Wear pesticide respiratory masks, protective gloves and clothing.

SECTION 10 : STABILITY AND REACTIVITY

- Conditions to avoid : Overheating, direct sunlight and extreme temperature.
Incompatible : Oxidizing agent, acids.
Decomposition Products : Carbon dioxide, carbon monoxide, nitrogen oxides and sulfur oxides.
Hazardous polymerization : None
Stability : Stable under normal conditions.

SECTION 11 : TOXICOLOGICAL INFORMATION (TECHNICAL)

Toxicity Data :

- | | | |
|-----------------------------------|--------------|--------------|
| Acute Oral LD ₅₀ | : (Rat) male | 4844 mg/kg |
| | (Rat) female | 4081 mg/kg |
| Acute Dermal LD ₅₀ | : (Rat) male | > 5000 mg/kg |
| Acute Inhalation LC ₅₀ | : (Rat) | 5.2 mg/l |
- Carcinogenicity : No data available
Reproductive Effect : No data available
Effects of Overexposure :
Irritation Properties : Slightly irritant to skin and eyes by Aromatic 150
Chronic Effects : No data available
Target Organs : No data available
Medical Conditions Generally Aggravated by Exposure : No data available

SECTION 12 : ECOLOGICAL INFORMATION

- Mobility & Bioaccumulation : No data available
Biodegradability : No data available
Aquatic toxicity : No data available

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SECTION 13 : DISPOSAL INFORMATION

Dispose of according to local regulation.

SECTION 14 : TRANSPORT INFORMATION

Follow the precaution indicated in the storage and handling section. Follow all regulations in your country.

SECTION 15 : REGULATORY INFORMATION

Pesticides Act : Class II - Poisonous

CPL Regulation : Class - Harmful

Risk Phrases : R20 Harmful by inhalation
R36/38 Irritating to eyes and skin

Safety Phrases : S2 Keep out of reach of children.
S13 Keep away from food, drink and animal feeding stuff
S38 In case of insufficient ventilation, wear suitable respiratory equipment

SECTION 16 : OTHER INFORMATION

- Reference : (a) Material Safety Data Sheet - Expand
Date : 6-4-1999
(b) Material Safety Data Sheet - Nabu Technical
Date of preparation : 16 May 2008
(c) Guidelines for The Classification of Hazardous Chemicals, DOSH 1997
(d) Guidelines for The Formulation of A Chemical Safety Data Sheet, DOSH 1997
(e) Guidelines for Labelling of Hazardous Chemicals, DOSH 1997

To the best of our knowledge, the information contained herein is accurate. However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein.