

## Safety Data Sheet

According to 91/155/EEC  
Date / Revised : 16 October 2013  
Product : Basamid<sup>®</sup> Granular

Version: 3  
Page: 1/9

---

Date of Print : 21 October 2013

### 1. Substance/preparation and company identification

#### **BASAMID<sup>®</sup> GRANULAR**

Company:  
Engage Agro Corporation  
1030 Gordon St.  
Guelph, ON  
N1G 4X5  
[www.engageagro.com](http://www.engageagro.com)  
(519) 826-7878

Emergency Information:  
In case of emergency involving a poisoning, major spill, or fire call 1-866-336-2983

---

### 2. Hazard identification

#### EMERGENCY OVERVIEW:

**WARNING! Dilution with water may generate poisonous gases (Methyl isothiocyanate (MITC)). Product is irritating to skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Harmful if swallowed. Harmful if inhaled. Harmful if absorbed through the skin. Irritating to eyes, nose and throat. Do not get on skin or clothing. Avoid breathing vapours from decomposition of product upon application. Do not get in eyes.**

Classification: Xn, R22-36/37/38-43; N, R 50-53  
The product is classified harmful and dangerous for the environment.

Human health hazards:  
Harmful if swallowed, irritating to eyes, respiratory system and skin, may cause sensitization by skin contact.

Environmental hazards:  
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### **Potential Health Effects**

Route(s) of Entry:  
Skin contact, inhalation, ingestion, and eye contact with the solid product. As a result of use of the product, applicators and other person present in the area of the application can be exposed to MITC. This chemical can be evolved as a gas from the soil of an application. MITC has a horseradish like odor and can be very irritating to the eyes. If odor is detected near an application of Basamid<sup>®</sup> Granular, notify the applicator of the problem and take appropriate measures to minimize/avoid exposure.

Signs of Acute Overexposure:

## Safety Data Sheet

According to 91/155/EEC

Date / Revised : 16 October 2013

Product : Basamid<sup>®</sup> Granular

**Version: 3**

**Page: 2/9**

Date of Print : 21 October 2013

---

Overexposure to Basamid<sup>®</sup> Granular as sold may result in skin irritation, excessive salivation, sweating, fatigue, weakness, nausea, headache, dizziness, eye, nose, throat and respiratory tract irritation. In addition, dilution to use levels results in the release of methyl isothiocyanate (MITC). Overexposure to MITC may result in strong skin and eye irritation, running nose, dizziness cramps, nausea, vomiting and mild to severe disturbances of the nervous system.

Signs of Chronic Overexposure:

Same as above, plus conjunctivitis, photophobia, digestive disturbances, weight loss, general bodily weakness, and blurred vision. In addition, laboratory studies have shown that exposure to the active ingredient, followed by ingestion of alcohol, may cause an adverse reaction, including low blood pressure, rapid heartbeat, and flushing of the skin. Consumption of alcohol during and after exposure to this product should be avoided.

Other Potential Health Effects:

Laboratory studies showed a potential for liver effects and kidney necrosis. This product is not listed as being carcinogenic by EPA.

Medical Conditions Aggravated by Exposure:

Impaired pulmonary functions and preexisting eye problems may be aggravated. Preexisting skin diseases may also be aggravated by exposure to the decomposition products.

**Care should be exercised and all label instructions should be followed, in the handling of products containing Basamid<sup>®</sup> Granular.**

---

### 3. Composition/information on ingredients

Chemical nature:

Microgranules (MG)

Hazardous ingredient:

Dazomet

Content (w/w):

97% (nominal)

IUPAC name :

3,5-dimethyl-1,3,5-thiadiazinane-2-thione-tetrahydro-

3,5-dimethyl-1,3,5-thiadiazine-2-thione

CAS No. :

[533-74-4]

EINECS No. :

208-576-7

Index- No. :

613-008-00-X

Hazard symbols :

Xn, N

R-phrases(s) :

22, 36/37/38, 43, 50/53

---

## Safety Data Sheet

According to 91/155/EEC  
Date / Revised : 16 October 2013  
Product : Basamid<sup>®</sup> Granular

**Version: 3**  
**Page: 3/9**

---

Date of Print : 21 October 2013

### 4. First-aid measures

**General advice:**

Avoid contact with the skin, eyes and clothing. Remove contaminated clothing. If difficulties occur: Obtain medical attention. Show container, label and/or safety data sheet to physician.

**If inhaled:**

Keep patient calm, remove to fresh air, seek medical attention.

**On skin contact:**

Wash thoroughly with soap and water. If irritation develops, seek medical attention.

**On contact with eyes:**

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

**On ingestion:**

Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

**Note to physician:**

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

---

### 5. Fire-fighting measures

Suitable extinguishing media:

Use powder, water spray or foam. Can form flammable dust/air mixtures at 30 g/m<sup>3</sup> air. CO<sub>2</sub> is unsuitable for extinguishing media due to dust explosion hazard. **NOTE:** Dilution with water may cause generation of flammable and toxic fumes of MITC. See **Chemical Stability** information in SECTION 10.

Hazardous Combustion Products:

This product can release toxic fumes of methylisothiocyanate (MITC), as well as nitrogen oxides, carbon monoxide and sulphur oxides, when heated to decomposition or diluted with water.

Further information:

In case of fire and/or explosion do not breathe fumes. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

---

## Safety Data Sheet

According to 91/155/EEC  
Date / Revised : 16 October 2013  
Product : Basamid<sup>®</sup> Granular

Version: 3  
Page: 4/9

---

Date of Print : 21 October 2013

### 6. Accidental release measures

**General precautions:** Avoid dust formation. Wear goggles, rubber gloves, mouth-and-nose-mask and protective clothing during clean-up operations. Bystanders are requested to leave the emergency site.

**Environmental precautions:** Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

**Small Spill:** Sweep into an open drum. Clean the area with common powdered household detergent and a stiff brush and just enough water to make a slurry. Absorb and sweep into the same open drum. Rinse with water, absorb, and add to the waste drum. Close the drum and dispose of properly.

**Large Spill:** Dike the spill to prevent contamination of local water sources. Vacuum or sweep into drums for use or disposal, depending on the circumstances. Clean the area as described for a small spill.

---

### 7. Handling and storage

**Handling:**

Prevent skin contact. Do not breathe fumes. Wear appropriate personal protective equipment. Wash thoroughly and change clothes after handling. See product label for more detailed handling procedures.

**Storage:**

KEEP DRY. Do not contaminate water, food or feed by storage or disposal. Store product in a cool, dry, locked place out of reach of children. Do not store above 35°C (95°F). Product decomposes at higher temperatures. See label for specific instructions.

**Storage stability:**

Storage duration: 24 months

---

### 8. Exposure controls and personal protection

**Engineering Controls:**

A well-ventilated area is recommended for handling Basamid<sup>®</sup> Granular. Use of mechanical or local exhaust systems is recommended.

**Respiratory Protection:**

A properly FIT-TESTED NIOSH/MSHA approved respirator fitted with organic vapour cartridges may be required when working with this product. Specific use regulations are listed on the label.

## Safety Data Sheet

According to 91/155/EEC  
Date / Revised : 16 October 2013  
Product : Basamid<sup>®</sup> Granular

**Version: 3**  
**Page: 5/9**

Date of Print : 21 October 2013

### Skin Protection:

Chemical resistant gloves, body covering clothing that has long sleeves and long pants, and chemical resistant shoes or boots, are required to prevent skin contaminations. A chemical resistant apron may be required under certain circumstances. Wear clean clothes daily. Wash well with soap and water after handling this product. See the label for more specific instructions.

### Eye Protection:

Safety glasses must be worn whenever working with chemicals. Face-sealing goggles (or full-face respirators) are required whenever ventilation is poor or dusting is heavy.

### Other Protection:

An eyewash station and a safety shower should be located in the work area.

---

## 9. Physical and chemical properties

### General information:

Form	Micro granules (MG)
Colour	White
Odour	Moderate fishy odour

### Important health, safety and environmental information:

pH value	7.2 (as a 1% watery dispersion)
Boiling point	Decomposition before boil
Melting range	103.2 to 105.2°C (active substance)
Flash point	Not applicable
Flammability	Not highly flammable
Ignition temperature	Not auto-flammable
Explosive properties	Non explosive
Oxidizing properties	Oxidizing properties not expected
Vapour pressure	$1.1 \times 10^{-3}$ PA (20°C) (active substance)
Relative density	1.34 g/cm <sup>3</sup> (20°C)
Bulk density	0.678 kg/L
Solubility in water	3.5 + 0.04 g/L (20°C) (active substance)
Partition coefficient: n-octanol/water	Log Pow = 0.63 (active substance)
Viscosity	Not applicable
Vapour Density	Not applicable
Evaporation rate	Not applicable

---

## Safety Data Sheet

According to 91/155/EEC  
Date / Revised : 16 October 2013  
Product : Basamid<sup>®</sup> Granular

Version: 3  
Page: 6/9

---

Date of Print : 21 October 2013

### 10. Stability and reactivity

#### Chemical Stability:

Basamid<sup>®</sup> Granular decomposes slowly, when diluted with water, to methyl isothiocyanate (MITC, a lachrymator and moderate poison.) Do not allow the product to contact water until after it has been incorporated into the ground. Basamid<sup>®</sup> Granular will decompose at temperatures exceeding 35°C (95°F). As originally packaged, Basamid<sup>®</sup> Granular is stable under normal storage conditions for up to 2 years. Basamid<sup>®</sup> Granular can also decompose to carbon disulphide and monomethylamine (both highly flammable) if contacted with a strong acid.

#### Incompatibility:

This product is incompatible with additional water and strong aqueous acids. In addition, it is corrosive to copper, brass, and zinc, and may soften and/or discolour iron.

#### Hazardous Decomposition Products:

When treated with water or heated to decomposition, this product will give off toxic fumes of methyl isothiocyanate (MITC), hydrogen sulphide, and nitrogen oxides. If treated with strong acids, fumes of carbon disulphide and monomethylamine will be given off.

#### Hazardous Polymerization:

This product will not polymerize.

---

### 11. Toxicological information

#### General:

Information has been included for the product and for two potential decomposition products in order to help potential users to have a clearer idea of the hazards associated with this product.

#### Teratogenicity:

No evidence of developmental effects in the rat but in the rabbit there is evidence of fetal resorptions at maternally toxic dose levels.

#### Mutagenicity:

Overall not considered to be genotoxic from a range of *in vivo* studies.

#### Carcinogenicity:

Dazomet (Basamid) has not been listed as carcinogenic by EPA.

#### Reproductive Toxicity:

No evidence of reproductive toxicity in the rat.

## Safety Data Sheet

According to 91/155/EEC  
Date / Revised : 16 October 2013  
Product : Basamid<sup>®</sup> Granular

**Version: 3**  
**Page: 7/9**

Date of Print : 21 October 2013

---

Toxicological Category	Specific Application	Basamid	MITC (Decomposition)
Ingestion	Oral LD <sub>50</sub> (rat)	519 mg/kg	55-220 mg/kg
Inhalation	Inhalation LC <sub>50</sub> (rat)	8.4 mg/L(4 hr)	1.9 mg/L air (1 hr)
Dermal	Skin LD <sub>50</sub> (rabbit)	>2000 mg/kg	33-202 mg/kg
Irritation	Eye (rabbit) Skin (rabbit)	Not irritating Not irritating	Corrosive Corrosive
Other	Skin sensitization (guinea pig)	Not a sensitizer	Sensitizer

---

## 12. Ecological information

### General:

This product is toxic to fish. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

---

## 13. Disposal considerations

1. Follow provincial instructions for any required additional cleaning of the container prior to its disposal.
  2. Make the empty container unsuitable for further use.
  3. Dispose of the container in accordance with provincial requirements.
  4. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.
-

## Safety Data Sheet

According to 91/155/EEC  
Date / Revised : 16 October 2013  
Product : Basamid<sup>®</sup> Granular

**Version: 3**  
**Page: 8/9**

Date of Print : 21 October 2013

### 14. Transport information

This product is not regulated when shipped by highway, rail, or air in non-bulk packaging (net weight of 400 kg (882 lbs) or less). When shipped in bulk (net weight of more than 400 kg) or by vessel (non-bulk or bulk) this product is regulated according to the data shown.

#### Land transport

<b>ADR</b>	: Class	9
	Packaging group	III
	UN-number	3077
	Designation of goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Contains: DAZOMET 98%)

<b>RID</b>	: Class	9
	Packaging group	III
	UN-number	3077
	Designation of goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Contains: DAZOMET 98%)

#### Inland waterway transport

<b>ADNR</b>	: Class	9
	Packaging group	III
	UN-number	3077
	Designation of goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Contains: DAZOMET 98%)

#### Sea transport

<b>IMDG/GGVSee</b>	: Class	9
	Packaging group	III
	UN-number	3077
	Marine pollutant	YES
	Exact technical name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains DAZOMET 98%)



## Safety Data Sheet

According to 91/155/EEC  
Date / Revised : 16 October 2013  
Product : Basamid<sup>®</sup> Granular

**Version: 3**  
**Page: 9/9**

---

Date of Print : 21 October 2013

### Air transport

ICAO/IATA	: Class	9
	Packaging group	III
	UN-number	3077
	Exact technical name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains DAZOMET 98%)

---

## 15. Regulatory information

### **General:**

This product is registered under the Pest Control Product Act of Canada (CPR). It is a violation of Canadian Law to use this product in any manner inconsistent with its labeling. Read and follow all label directions. This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

---

## 16. Other information

### **MSDS Status**

Date of Revision: October 16, 2013  
Person Responsible for Preparations: Wesley Cook

### **Disclaimer:**

While Engage Agro Corporation believes that the data set forth herein is accurate, as of the data hereof, Engage Agro Corporation makes no warranty with respect thereto and expressly disclaims all liability for reliance thereon. Such data is offered solely for your consideration, investigation and verification. No warranty or guarantee, express or implied, is made as to the accuracy or reliability, and the Engage Agro Corporation shall not be liable for any loss or damage arising out of the use thereof. No authorization is given or implied to use any patented invention without a license. In addition, the Engage Agro Corporation shall not be liable for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.

---