SAFETY DATA SHEET

1. Identification

Product identifier	**Basamid® G**
Other means of identification	
SDS number	431_v2.0
Synonym(s)	Dazomet * Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione * Temozad
Recommended use	For pre-planting control of listed weeds, nematodes and solid diseases (see label).
Recommended restrictions	This is a Restricted Use Pesticide and is for use by licensed applicators only. Do not get this product in contact with water except after incorporation into the soil. Contact with water generates toxic fumes of Methyl isothiocyanate (MITC).
EPA Registration number	EPA: 5481-9027

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	AMVAC Chemical Corporation	
Address	4100 E Washington Blvd Los Angeles, CA 90023 USA	
Telephone	AMVAC Chemical Corp	323-264-3910
	AMVAC Chemical Corp	323-268-1028 (FAX)
Website	www.Amvac-Chemical.com	
E-mail	CustServ@Amvac-Chemical.com	
Emergency phone number	Medical	888-681-4261
	CHEMTREC® (USA+Canada)	800-424-9300
	Product Use	888-462-6822
	CHEMTREC® (Outside USA)	+1-703-527-3887

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

Label elements

Signal word	Warning
Hazard statement	Harmful if swallowed.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Use personal protective equipment as required.

Response	Call a POISON CENTER or doctor/physician if you feel unwell. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store away from incompatible materials.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	May form combustible dust concentrations in air. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
Supplemental information	Basamid G is relatively non-toxic in the granular form, but dilution with water causes multiple toxicity concerns due to the formation of Methyl isothiocyanate (MITC), a lachrymator and poison. Solutions have the following health hazards associated with them: Fatal in contact with the skin; Fatal if inhaled; Causes severe skin and eye damage; Causes severe eye damage; May cause an allergic skin reaction; Suspected of damaging the fertility or the unborn child.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Dazomet	Dazomet Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiaz ine-2-thione Temozad	533-74-4	≥ 99.0

Decomposition

Chemical name	Common name and synonyms	CAS number	%
Methyl isothiocyanate (MITC)		556-61-6	

Impurities

Chemical name	Common name and synonyms	CAS number	%
Related Compound		N/A	≤ 1.0

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse. Do not breathe fumes generated by the solution of the solids in water.
Eye contact	Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not breathe fumes generated by the solution of the solids in water.
Ingestion	Get medical advice/attention if you feel unwell. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions.
Most important symptoms/effects, acute and delayed	Dazomet granules: None known. Dazomet solution in water (generates MITC): Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Exposure to Basamid G (Dazomet) granules is minimally toxic and patient should be treated symptomatically. If patient is exposed to solutions of Basamid G in water, the patient should be treated for MITC poisoning. Contact a poison control center for additional information.
General information	Take off immediately all contaminated clothing. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse. Discard any shoes or clothing items that cannot be decontaminated.

5. Fire-fighting measures

Suitable extinguishing media	Powder. Foam. Carbon dioxide (CO2).
Unsuitable extinguishing media	Dilution with water may cause generation of flammable and toxic fumes of MITC. See Chemical Stability information in SECTION 10.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Use water spray to cool unopened containers.
Specific methods	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
General fire hazards	This product will produce vapors of Methyl isothiocyanate (MITC), a flammable and toxic compound, when diluted with water.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS. Do not breathe dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	Do not get water on spilled substance or inside containers. Wear appropriate protective equipment and clothing during clean-up. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Prevent product from entering drains. Large Spills: Shovel the material into waste container. Treat the remaining spill as a small spill. Small Spills: Absorb in vermiculite, dry sand or earth and place into containers. Sweep up or vacuum up spillage and collect in suitable container for disposal. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse.
Conditions for safe storage, including any incompatibilities	Store in a cool, dry place out of direct sunlight. Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep away from food, drink and animal feedingstuffs.

8. Exposure controls/personal protection

Occupational exposure limits	This substance has no PEL, TLV, or other recommended exposure limit.
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
Other	Wear appropriate chemical resistant clothing (see label).

Respiratory protection	Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. The label should be consulted for more specific information with regards to respiratatory protection.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	
Physical state	Solid.
Form	Solid. Dry flowable granules.
Color	White
Odor	Minor sulfur-like odor
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	222.8 °F (106 °C) (decomposes)
Initial boiling point and boiling range	Not available.
Flash point	199 °F (93 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	4.00E-07 kPa at 20 °C
Vapor density	Not available.
Relative density	1.3 g/cm3 at 20 °C
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	0.15
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	1.30 g/cm3 estimated at 20 °C
Molecular formula	C5-H10-N2-S2
Molecular weight	162.28 g/mol

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions. Dazomet decomposes, when diluted with water, to methyl isothiocyanate (MITC, a lachrymator and moderate poison) . Use the solution promptly after mixing. Do not allow the solution to stand. Dazomet can also decompose to carbon disulfide, monomethylamine, and formaldehyde (all highly flammable) if contacted with a strong acid.

Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Acids. Water.
Hazardous decomposition products	Dazomet will decompose in water solutions to give MITC. In contact with strong acids it will decompose to carbon disulfide (CS2), methylamine, and formaldehyde.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Dazomet granules: No adverse effects due to inhalation are expected. Dazomet solution in water (generates MITC): Fatal if inhaled.
Skin contact	Dazomet granules: Not a skin irritant or skin sensitizer. Dazomet solution in water (generates MITC): Fatal in contact with skin. Causes severe skin burns. May cause an allergic skin reaction.
Eye contact	Dazomet granules: Not an eye irritant Dazomet solution in water (generates MITC): Causes serious eye damage.
Ingestion	Dazomet granules: Harmful if swallowed. Dazomet solution in water (generates MITC): Toxic if swallowed. Causes digestive tract burns.
Symptoms related to the physical, chemical and toxicological characteristics	Dazomet granules: None known. Dazomet solution in water (generates MITC): Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Dazomet granules: Harmful if swallowed.

Dazomet aqueous solution (generates MITC): Fatal if inhaled. Fatal in contact with skin. Toxic if swallowed. May cause an allergic skin reaction.

Product	Species	Test Results
Dazomet (CAS 533-74-4)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
Mist		
LC50	Rat	8.4 mg/l/4h
Oral		
LD50	Rat	519 mg/kg

Decomposition	Species	Test Results
Methyl isothiocyanate (MITC) (CAS 556-61-6)		
Acute		
Dermal		
LD50	Rabbit	33 mg/kg
Oral		
LD50	Rat	175 mg/kg

Skin corrosion/irritation	Dazomet granules: Non irritating to skin. Dazomet solution in water (generates MITC): Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Dazomet granules: Non-irritating (rabbit) Dazomet solution in water (generates MITC): Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.

Skin sensitization Dazomet granules: Not a skin sensitizer.

Dazomet solution in water (generates MITC): May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Dazomet granules: Not classified.

Dazomet solution in water (generates MITC): Suspected of damaging fertility or the unborn child.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Product		Species	Test Results
Dazomet (CAS 533-74-4)			
Aquatic			
Crustacea	LC50	Harpacticoid copepod (Nitocra spinipes)	1.4 - 2 mg/l, 96 hours
Fish	LC50	Bleak (Alburnus alburnus)	45 - 50 mg/l, 96 hours
		Harlequinfish, red rasbora (Rasbora heteromorpha)	0.28 mg/l, 48 hours

Decomposition		Species	Test Results
Methyl isothiocyanate (MITC) (CAS 556-61-6)			
Aquatic			
Crustacea	LC50	Water flea (Daphnia magna)	0.18 - 0.56 mg/l, 48 hours
			0.032 - 0.1 mg/l, 14 days

Persistence and degradability Product decomposes rapidly in wet environments.

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient n-octanol / water (log Kow)

Dazomet	0.15

Mobility in soil This product decomposes when diluted with water and the decomposition products will leach from the soil.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of container and residues in accordance with all applicable regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal methods/information). Avoid discharge into water courses or onto the ground.

Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN3077
UN proper shipping name	Environmentally hazardous substances, solid, n.o.s. (Dazomet)
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
Packing group	III
Environmental hazards	
Marine pollutant	No
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	8, 146, 335, A112, B54, IB8, IP3, N20, T1, TP33
Packaging exceptions	155
Packaging non bulk	213
Packaging bulk	240

IATA

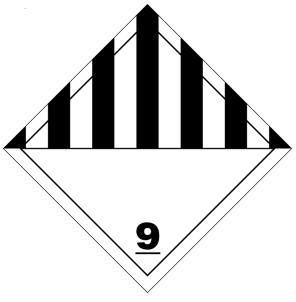
UN number	UN3077
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s. (Dazomet)
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Packing group	III
Environmental hazards	Yes, when transported over large bodies of water
ERG Code	9L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN3077
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Dazomet), MARINE POLLUTANT
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-F
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

DOT; IATA; IMDG



Marine pollutant

General information IMDG Regulated Marine Pollutant.
This product is not regulated when shipped by highway, rail, or air in non-bulk packaging (maximum capacity of 450 L (119 gallons) or less. When shipped by vessel or in bulk packaging this product is regulated according to the data shown.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
This product is registered under EPA/FIFRA Regulations as a RESTRICTED USE PESTICIDE. It is a violation of Federal Law to use this product in any manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

This is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

HAZARD TO HUMANS AND DOMESTIC ANIMALS.

DANGER: Restricted Use Product. Fatal if absorbed through skin. Corrosive. Causes skin burns and irreversible eye damage, Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not apply when weather conditions favor drift from the treated area. Do not contaminate water when disposing of equipment washwaters.

Dazomet has certain properties and characteristics in common with chemicals that have been detected in groundwater Dazomet is highly soluble in water and has low adsorption to soil).

For untarped applications, leaching and runoff may occur if there is heavy rainfall after soil fumigation.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Methyl isothiocyanate (MITC)	556-61-6	500	500		

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Dazomet	533-74-4	≥ 99.0

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date May-01-2015

Revision date Jun-20-2017

References

ACGIH®: American Conference of Governmental Industrial Hygienists
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
EPA: Environmental Protection Agency
FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act
IARC: International Agency for Research on Cancer
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Agency
SARA: Superfund Amendments and Reauthorization Act
TSCA: Toxic Substances Control Act
DOT: Department of Transportation
IMDG: International Maritime Dangerous Goods
IATA: International Air Transport Association

Version # 2.0

Further information Not available.

HMIS® ratings

Health: 2
Flammability: 0
Physical hazard: 0

NFPA ratings

Health: 2
Flammability: 0
Instability: 0

Disclaimer

This information is provided for the limited guidance to the user. While AMVAC believes that the information is, as of the date hereof, reliable, it is the user's responsibility to determine the suitability of the information for its purposes. The user is advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional, or variable conditions or circumstances exist (like combinations with other materials), or because of applicable regulations. No express or implied warranty of merchantability or fitness for a particular purpose or otherwise is made hereunder with respect to the information or the product to which the information relates.
AMVAC Chemical Corporation cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.