

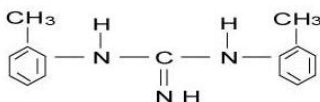
DOTG

Diotolylguanidine

CAS Number: 97-39-2

Molecular weight: 239.32

Molecular formula: C₁₅H₁₇N₃



PRODUCT INFORMATION

PRODUCT SPECIFICATIONS		GRANULES	OIL POWDER	POWDER
Appearance		Grey-white granules	Grey-white oil powder	Grey-white powder
Initial Melting Point	°C min	170.0	170.0	170.0
Loss on drying	% max	0.30	0.40	0.30
Ash	% max	0.30	0.40	0.30
Residue on sieve (63µm)	% max	-	0.50	0.50
Residue on sieve (150µm)	% max	-	0.10	0.10
Oil content	%	-	0.0 – 2.0	-
<u>Typical properties</u>				
Density	g/cm ³	1.01-1.02		
<u>Packaging</u>				
Bag		25kg (55 lbs)		
Pallet		500kg or 600kg (1102 lbs or 1323 lbs)		

FUNCTION

DOTG is seldom used alone, most commonly with thiazoles, thiram, dithiocarbamates and sulfenamides to promote its activity.

APPLICATIONS AND PROPERTIES

- DOTG is slightly more active than DPG.
- Suitable for NR, SNR, IIR, IR SBR, NBR and CR.
- Its critical temperature is 141°C.
- This product is a plastic decomposing agent in CR, however it is unsuitable for food-related products or medical products.
- Product has a slight bitter taste.
- Soluble in chloroform, acetone and alcohol and slightly soluble in benzene.
- Insoluble in water and gasoline.
- DOTG is regulated for use under the following sections of FDA 21 CFR:
177.2600 – Rubber Articles Intended for Repeated Use in Food Contact.
175.105 – Components of Adhesives,
178.3120 – Certain Adjuvants and Production Aids – Animal Glue.

STORAGE

Material should be stored in a cool, dry, well ventilated area, away from high temperatures. The maximum recommended storage life is 1 year when stored under normal conditions.

HANDLING PRECAUTIONS

For detailed information on toxicological properties and handling precautions, please refer to the current Safety Data Sheet. This information is available by request from **SunBoss Chemicals Corp.**

[Revised: November 5, 2014 by kk]

Skin contact	May be skin irritant and sensitizer
Eye Contact	Eye irritant

4. EMERGENCY FIRST AID PROCEDURES

Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	Do not induce vomiting. Immediately give two glasses of water, a little at a time. Never give anything by mouth to an unconscious person. Call a physician. If vomiting occurs spontaneously, lower head below waist to prevent fluid from entering the lungs.
Skin	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Eyes	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Note to Physician	Provide symptomatic/supportive care as necessary. Treatment based on sound judgment of physician and individual reactions of patient. Observe for signs of respiratory distress.

5. FIRE AND EXPLOSION HAZARD MEASURES

Flammability	Not determined
Flash Point	Not determined
Flash Point Method	Not determined
DOT Category	UN 2811, Toxic Solid, Organic, N.O.S., (Diotolyguanidine) 6.1, PG III
Extinguishing Media	Use dry chemical powder, water spray, sand, fog, or foam. Do not use water jet.
Auto Ignition Temperature	Not determined
Flammable Limits	Not determined
Special Fire Fighting Procedures	Not determined
Special Protective Equipment	Fire fighters should wear full protective clothing, including self-contained breathing equipment.
Unusual Fire and Explosion Hazards	As with any dry material, pouring or allowing to free-fall or to be conveyed through chutes or pipes can accumulate and generate electrostatic sparks, potentially causing ignition of the material itself, or of any flammable materials which may come in contact with the material or its container.

6. ACCIDENTAL RELEASE MEASURES

Procedures	Evacuate area of nonessential personnel. Use safety glasses and gloves. Respiratory protection is required only if a dust is generated.
Clean up Methods	Put spilled solid in a waste disposal container. Scoop or shovel spilled solids onto containers. Avoid creating dust. Prevent spilled product or contaminated water from entering drinking water supplies or streams.

7. HANDLING AND STORAGE

Handling	Do not breathe dust. Avoid contact with skin and eyes. After handling, always wash hands thoroughly with soap and water. Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Use explosion proof equipment. Ground all equipment containing material.
Storage	Keep container tightly closed and store in a cool, well-ventilated area.

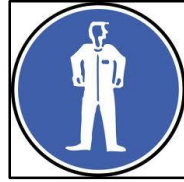
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operating generates dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
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Exposure Limits
Diotolyguanidine

ACGIH TLV
8.8 mg/m³ 2ppm
Skin

OSHA PEL
22 mg/m³ 5ppm
Skin



Respiratory	Dust respirator. Be sure to use an approved/certified respirator or equivalent.
Eyes	Wear safety glasses or splash goggles to protect against exposure.
Skin	Normal work coveralls. Launder contaminated clothing before reuse.
Gloves	Use gloves as a standard industrial handling procedure. All cleanable impervious glove types are acceptable.

3. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Grey white powder or granules
Odour	Not applicable
Specific Gravity	1.2 @ 20°C
Density	1.01 - 1.02 g/cm ³

Bulk Density	Not applicable
Solubility in water	INSOLUBLE IN COLD WATER. SLIGHTLY SOLUBLE IN WARM WATER
pH	Not applicable
Other Solubility	Chloroform, acetone and alcohol - slightly soluble in benzene
Boiling point	Not applicable
Melting Point	170°C
Molecular Weight	239.32
Molecular Formula	C ₁₅ H ₁₇ N ₃

10. STABILITY AND REACTIVITY

Chemical Stability	The product is stable
Conditions to avoid	Strong oxidizing agents, strong acids
Incompatibility	Strong oxidizing agents, strong acids
Hazardous Polymerization	Does not occur
Hazardous Decomposition Products	Oxides of nitrogen and carbon, hydrogen cyanide.
Additional Guidelines	None

11. TOXICOLOGICAL INFORMATION

Acute oral LD 50 (mg/kg)	134 mg/kg
Acute Dermal LD 50 (mg/kg)	4417 mg/kg
Acute Inhalation LC50 (mg/l)	Not determined
Principle routes of Exposure	Inhalation; Ingestion, Eyes, Dermal
Ingestion	Harmful if ingested. Sensitisation effects may be involved and reaction may be severe. Bitter taste left in mouth after exposure.
Skin contact	Prolonged or repeated contact with skin may cause allergic reactions in susceptible persons. Not a sensitizer in animals.
Inhalation	Dust may irritate nose, throat, and lungs.
Eye Contact	This product is an eye irritant.
Aggravated Conditions	This product can contain up to 1000 ppm of orthotoluidine, which may cause cancer.
Carcinogenicity	Classified A3 (proven for animal) by ACGIH, 2B (Possible for human) by IARC. Classified 2 (suspected for human) by European Union.

Primary Irritation Effect	Not determined
Genotoxicity	Not determined
Reproductive/Developmental Toxicity	Not determined

12. ECOLOGICAL INFORMATION

Acute Fish Toxicity	Not determined
Acute Crustacean Toxicity	Not determined
Octonal/Water Coefficient	Not determined
Chemical Fate Information	Not determined
Other Information	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

13. DISPOSAL CONSIDERATIONS

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Contaminated Packaging	If empty container retains product residues, all label precautions, must be observed. Store away from ignition sources. Transport with all closures in place. Return for reuse or dispose according to national or local regulations. Dispose of container according to national or local regulations.

14. TRANSPORT INFORMATION

DOT



UN/ID No.	UN 2811
Proper Shipping Name	TOXIC SOLID, ORGANIC, N.O.S., (Diotolyguanidine)
Hazard Class	6.1
Packing Group	II
Reportable Quantity (lbs)	1001

IATA



UN/ID No.	UN 2811
Proper Shipping Name	TOXIC SOLID, ORGANIC, N.O.S., (Diotolyguanidine)
Hazard Class	6.1
Packing Group	II

Note:

Passengers: Packaging instruction 619 (100 kg max by package),

Cargo: Packaging instruction 619 (200 kg net max by package)

Marine Pollutant

No

IMDG



UN/ID No.

UN 2811

Proper Shipping Name

TOXIC SOLID, ORGANIC, N.O.S., (Diotolyguanidine)

Hazard Class

6.1

Packing Group

II

Note:

UN Nr (IMDG): 6280-6, labeling: 6.1, Safety sheet: 6.1-04

Marine Pollutant

No

TDG (Canada)

See DOT

15. REGULATORY INFORMATION

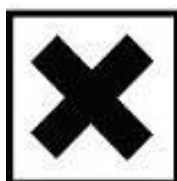
LABELLING ACCORDING TO DIR 67/548 EEC

EC Number: 202-577-6

Classification based on: TESTS



TOXIC (T+)



HARMFUL (Xn)

CLASSIFIED ACCORDING TO DIRECTIVE 199/45/EC

Risk Phrases:

R23/25 – Toxic by inhalation and if swallowed.

R33 – Danger of cumulative effects.

R36 – Irritating to eyes

R45 – May cause cancer.

R50/53 – Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

R61 – May cause harm to the unborn child.

R62 – Possible risk of impaired fertility.

R65 – Harmful: May cause lung damage if swallowed.

Safety Phrases:

S2 – Keep out of reach of children.

S36/37/39 – Wear suitable protective clothing, gloves, eye, and face protection.

S45 – In case of accident or if you feel ill, seek medical advice immediately.

S53 – Avoid exposure.

S60 – This material and its container must be disposed of as a hazardous waste.

S61 – Avoid release to the environment. Refer to Special Instructions/Safety Data Sheet.

FDA Status 21 CFR

Regulated for use under the following sections of FDA 21 CFR:
175.105 – Components of Adhesives.
177.2600 - Components of Articles Intended for Repeated Use.
178.3120 – Certain Adjuvants and Production Aids – Animal Glue.

TSCA

Listed

Canadian DSL

Listed

EINECS/ELINCS

Listed

US Regulations

SARA Section 302

None Found

SARA 311/312 Hazard Categories

Immediate

SARA 313 Chemical

None

RCRA Status

Hazardous Waste

Canadian Regulations

WHMIS Hazard Class



D1B VERY TOXIC MATERIALS: D2A VERY TOXIC MATERIAL; D2B TOXIC MATERIALS/material causing other toxic effects.

NPRI

Not determined

16. HAZARD RATING SYSTEM

NFPA Rating (Scale 0-4)

- 0 - Minimal Hazard
- 1 - Slight Hazard
- 2 - Moderate Hazard
- 3 - Serious Hazard
- 4 - Severe Hazard

HEALTH	3
FIRE	1
REACTIVITY	0

HMIS Classification (Scale 0-4)

- 0 - Minimal Hazard
- 1 - Slight Hazard
- 2 - Moderate Hazard
- 3 - Serious Hazard
- 4 - Severe Hazard

HEALTH	3
FIRE	1
REACTIVITY	0

17. OTHER INFORMATION

Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. SunBoss Chemicals Corp. extends no warranty and assumes no responsibility for the accuracy or sufficiency of the content and expressly disclaims all liability for reliance thereon. This safety data sheet provides guidelines for the safe handling of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required. It is the responsibility of the user to comply with all Federal, State and local laws and regulations. Individuals exposed to this product should read and understand this information and be provided pertinent training prior to working with this product.

Abbreviations and Acronyms

ACGIH: American Conference of Governmental Industrial Hygienists Inc.
CAS: Chemical Abstracts Service (Division of American Chemical Society)
DOT: Department of Transportation (USA)
EINECS: European Inventory of Existing Commercial Chemical Substances
HMIS: Hazardous Materials Identification System (USA)
IARC: Internal Agency for Research on Cancer
IATA: International Air Transport Association
IMDG: International Marine Code for Dangerous Goods
LD50: Lethal Dose Medium
LC50: Lethal Concentration Medium
EC50: Effective Concentration Medium
NIOSH: National Institute for Occupational Safety and Health
NFPA: National Fire Protection Association (USA)
NPRI: National Pollutant Release Inventory (Canada)
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration (USA)
PEL: Permissible Exposure Limits
TDG: Transportation of Dangerous Goods (Canada)
TLV: Threshold Limit Value
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information Systems (Canada)

18. REVISION DATE

Revision number: 3

Date of Issue: September 2, 2014

Changes: Number and format of headings changed; Updates to Sections 1: Identification of Substance - EC information added; 2: Health Hazards Information; 8: Specific Personal Protection Equipment - pictograms added; 14: Transport information - pictograms added; 15: Regulatory information - EC information added; 16: Hazard Rating System - table added; 17: Abbreviations and Acronyms added