SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed: 09/04/2009
Date Updated: 01/30/2006
Version 1.30

Section 1 - Product and Company Information

Product Name 1,3-Dinitrobenzene-d4, 98 atom % D
Product Number 389366
Brand Aldrich Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832 **Emergency Phone:** 314-776-6555
Fax: 800-325-5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
1,3-DINITROBENZENE-D4, 99 ATOM % D	54247-05-1	No		

Formula C6 D4N2O4
Synonyms

Section 3 - Hazards Identification

Emergency Overview
Highly Toxic (USA) Very Toxic (EU).
Heating may cause an explosion. Very toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects. Limited evidence of a carcinogenic effect.
Possible mutagen. Reproductive hazard. Target organ(s): Blood. Liver.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Immediate Treatment- Work Site
In case of contact, immediately flush eyes or skin with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes.

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Eye Exposure
Assure adequate flushing of the eyes by separating the eyelids with fingers.

Section 5 - Fire Fighting Measures

Explosion Hazards
May explode when heated.

Explosion Data
Sensitivity to Mechanical Impact
May be shock-sensitive.
Dust Potential
This material, like most materials in powder form, is capable of creating a dust explosion.

Autoignition Temp: N/A

Extinguishing Media
Suitable
Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting
Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s)
Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling
User Exposure
Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

Storage
Suitable
Keep tightly closed. Store in a cool dry place. Store under nitrogen.

Special Requirements
Hygroscopic.

Section 8 - Exposure Controls / PPE

Engineering Controls
Use only in a chemical fume hood.

Personal Protective Equipment
Respiratory
Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.
Hand
Wear heavy rubber gloves.
Eye
Chemical safety goggles.

RECEIVED
SEP 14 2009
Safety & Environmental Health

1095 09052009 0000006

Other
Rubber apron.

General Hygiene Measures
Discard contaminated clothing and shoes.Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Molecular Weight	172.14 AMU
pH	N/A
BP/BP Range	N/A
MP/MP Range	89 - 91 °C
Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
SG/Density	N/A
Bulk Density	N/A
Odor Threshold	N/A
Volatile%	N/A
VOC Content	N/A
Water Content	N/A
Solvent Content	N/A
Evaporation Rate	N/A
Viscosity	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point °F	N/A
Flash Point °C	N/A
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	N/A
Solubility	N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability
Materials to Avoid
Oxidizing agents, Reducing agents, Strong bases

Hazardous Decomposition Products
Hazardous Decomposition Products
Carbon monoxide, carbon dioxide, and nitrogen oxides

Section 11 - Toxicological Information

Route of Exposure
Multiple Routes
May be fatal if inhaled, swallowed, or absorbed through skinMay cause irritation.

Target Organ(s) or System(s)
Blood, Liver.

Signs and Symptoms of Exposure
Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortnessfo breath, headache, nausea, and vomiting.

RTECS Number: N/A

Chronic Exposure- Reproductive Hazard
Result: May cause reproductive disorders.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
The material should be ignited in the presence of sodium carbonate and slaked lime (calcium hydroxide). The substance should be mixed with vermiculite and then with the dry caustics, wrapped in paper and burned in a chemical incinerator equipped with an afterburner and scrubber.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: Dinitrobenzenes, solid
UN#: 3443
Class: 6.1
Packing Group: Packing Group II
Hazard Label: Toxic substances.
PIH: Not PIH

IATA
Proper Shipping Name: Dinitrobenzenes, solid
IATA UN Number: 3443
Hazard Class: 6.1
Packing Group: II

Section 15 - Regulatory Information

EU Additional Classification
Symbol of Danger: T+
Indication of Danger
Very toxic.
Risk Statements **R:** 5 26/27/28 33 40
Heating may cause an explosion.Very toxic by inhalation, in contact with skin and if swallowed.Danger of cumulative effects. Limited evidence of a carcinogenic effect.
Safety Statements **S:** 22 36/37/39 45
Do not breathe dust.Wear suitable protective clothing, gloves, and eye/face protection.In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Classification and Label Text

Indication of Danger

Highly Toxic (USA) Very Toxic (EU).

Risk Statements

Heating may cause an explosion. Very toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects. Limited evidence of a carcinogenic effect.

Safety Statements

Do not breathe dust. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Statements

Possible mutagen. Reproductive hazard. Target organ(s): Blood. Liver.

United States Regulatory Information

SARA Listed: No

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or form contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2009 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

RECEIVED
SEP 14 2009
Safety & Environmental Health

1096 09052009 0000006