

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: DPD Oxalate N,N-Diethyl-p-Phenylenediamine, Oxalic Acid Salt
Catalog Number: 608424

Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669-3050

Emergency Telephone Numbers:
(Medical and Transportation)
(303) 623-5716 24 Hour Service
(515)232-2533 8am - 4pm CST

MSDS Number: M01264
Chemical Name: 1,4-Benzenediamine, N,N-diethyl-, ethanedioate (2:1)
CAS Number: 62637-92-7
Additional CAS No. (for hydrated forms): Not applicable
Chemical Formula: C₁₀H₁₆N₂(COOH)₂
Chemical Family: Aromatic Amines
Intended Use: Laboratory Use

2. HAZARDS IDENTIFICATION

GHS Classification:

Hazard categories: Germ Cell Mutagenicity: Muta. 2 Respiratory or Skin Sensitization: Skin Sens.1 Hazardous to the Aquatic Environment: Aquatic Chronic 2

GHS Label Elements:

WARNING



Hazard statements: Suspected of causing genetic defects. May cause an allergic skin reaction. Toxic to aquatic life with long lasting effects.

Precautionary statements: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves / protective clothing / eye protection / face protection. P272: Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. IF exposed or concerned: Get medical advice/attention.

HMS:

Health: 3
Flammability: 1
Reactivity: 0
Protective Equipment: X - See protective equipment, Section 8.

NFPA:

Health: 3
Flammability: 1
Reactivity: 0
Symbol: Not applicable

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components according to GHS: Yes
N,N-Diethyl-p-Phenylenediamine, Oxalic Acid Salt

CAS Number: 62637-92-7

Chemical Formula: $C_{10}H_{16}N_2(COOH)_2$
GHS Classification: Muta. 2, H341; Skin Sens. 1, H317; Aquat. Chr. 2, H411
Percent Range:
Percent Range Units:
PEL: Not established
TLV: Not established

4. FIRST AID

General Information: In the event of exposure, show this Material Safety Data Sheet and label (where possible) to a doctor.

Advice to doctor: Treat symptomatically.

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.

Skin Contact (First Aid): Wash skin with plenty of water for 15 minutes. Remove contaminated clothing. Call physician immediately.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. Call physician.

Ingestion (First Aid): Do not induce vomiting. Call physician immediately.

5. FIRE FIGHTING MEASURES

Flammable Properties: Can burn in fire, releasing toxic vapors.

Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear. Evacuate area and fight fire from a safe distance.

Extinguishing Media: Use media appropriate to surrounding fire conditions

Extinguishing Media NOT To Be Used: Not applicable

Fire / Explosion Hazards: None reported

Hazardous Combustion Products: Toxic fumes of: nitrogen oxides. carbon monoxide, carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES

Spill Response Notice:

Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29.CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

Containment Technique: Stop spilled material from being released to the environment.

Clean-up Technique: Scoop up spilled material into a large beaker and dissolve with water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Flush reacted material to the drain with a large excess of water. Decontaminate the area of the spill with a soap solution.

Evacuation Procedure: Evacuate general area (50 foot radius or as directed by your facility's emergency response plan) when: a pound or more of loose powder is spilled. If conditions warrant, increase the size of the evacuation.

DOT Emergency Response Guide Number: 154

7. HANDLING / STORAGE

Handling: Avoid contact with eyes skin clothing Do not breathe dust. Wash thoroughly after handling. Use with adequate ventilation. Maintain general industrial hygiene practices when using this product.

Storage: Store in a cool, dry place. Keep away from: oxidizers

Flammability Class: Not applicable

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Use general ventilation to minimize exposure to mist, vapor or dust. Maintain general industrial hygiene practices when using this product.

Personal Protective Equipment:

Eye Protection: safety glasses with top and side shields

Skin Protection: disposable latex gloves In the EU, the selected gloves must satisfy the specifications of EU Directive 89/686/EEC and standard EN 374 derived from it. lab coat

Inhalation Protection: laboratory fume hood

Precautionary Measures: Avoid contact with: eyes skin clothing Do not breathe: dust Wash thoroughly after handling. Use with adequate ventilation. Keep away from: oxidizers

TLV: Not established

PEL: Not established

For Occupational Exposure Limits (OEL) for ingredients, see section 3 - Composition/Information on Ingredients.:

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: White to pale yellow powder

Physical State: Solid

Molecular Weight: 254.12

Odor: None

Odor Threshold: Odorless

pH: 3.8 (5% sol'n)

Metal Corrosivity:

Corrosivity Classification:

Steel: Not determined

Aluminum: 0.034 in/yr (0.86 mm/yr)

Specific Gravity/ Relative Density (water = 1; air =1): 1.226

Viscosity: Not applicable

Solubility:

Water: Soluble

Acid: Soluble in dilute H₂SO₄

Other: Soluble in Methanol, Aqueous Ammonia

Partition Coefficient (n-octanol / water): Not applicable

Coefficient of Water / Oil: Not applicable

Melting Point: Not determined

Decomposition Temperature: Not available

Boiling Point: Not determined

Vapor Pressure: Not applicable

Vapor Density (air = 1): Not applicable

Evaporation Rate (water = 1): Not applicable

Volatile Organic Compounds Content: Not applicable

Flammable Properties: Can burn in fire, releasing toxic vapors.

Flash Point: Not applicable

Method: Not applicable

Flammability Limits:

Lower Explosion Limits: Not applicable

Upper Explosion Limits: Not applicable

Autoignition Temperature: Not determined

Explosive Properties:

Not applicable Not classified according to GHS criteria.

Oxidizing Properties:

Not applicable Not classified according to GHS criteria.

Reactivity Properties:

Not applicable Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.

Gas under Pressure: Not applicable Not classified as gas under pressure according to GHS.

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.

Mechanical Impact: None reported

Static Discharge: None reported.

Reactivity / Incompatibility: May react violently in contact with: oxidizers
Hazardous Decomposition: Toxic fumes of: nitrogen oxides
Conditions to Avoid: Extreme temperatures

11. TOXICOLOGICAL INFORMATION

Toxicokinetics, Metabolism and Distribution: No information available
Toxicologically Synergistic Products: None reported
Acute Toxicity: Based on classification principles, the classification criteria are not met.
Specific Target Organ Toxicity - Single Exposure (STOT-SE): Based on classification principles, the classification criteria are not met.
Specific Target Organ Toxicity - Repeat Exposure (STOT-RE): Based on classification principles, the classification criteria are not met.
Skin Corrosion/Irritation: Based on classification principles, the classification criteria are not met.
Eye Damage: Based on classification principles, the classification criteria are not met.
Sensitization: Contains a sensitizing compound.
CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction): Potential S. typhimurium TA100 mutagen Structural Alert for nongenotoxic carcinogenicity
IARC Listed: No
NTP Listed: No
O.S.H.A. Listed: No
Symptoms/Effects:
Ingestion: May cause: abdominal pain abdominal cramps muscular twitching central nervous system depression
Inhalation: Causes: irritation of nose and throat
Skin Absorption: Will be absorbed through the skin. Effects similar to those of ingestion
Chronic Effects: None reported
Medical Conditions Aggravated: Allergy or sensitivity to salts of N,N-Diethyl-p-phenylenediamine

12. ECOLOGICAL INFORMATION

Product Ecological Information: --
Ecological structure-activity relationship (SAR) Estimation (ECOSAR U.S. EPA 2009)
CEPA Categorization: Not Persistent or Bioaccumulative. Not inherently toxic to aquatic organisms.
Neutral organic: fish 96 hr LC50 = 79.9 mg/L; daphnid 48 hr LC50 = 47.45 mg/L; algae 96 hr EC50 = 22.54 mg/L.
Ingredient Ecological Information: --
Not applicable

13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: Not applicable
Special Instructions (Disposal): Work in an approved fume hood. Dilute material with excess water making a weaker than 5% solution. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Open cold water tap completely, slowly pour the reacted material to the drain. Allow cold water to run for 5 minutes to completely flush the system.
Empty Containers: Rinse three times with an appropriate solvent. Dispose of empty container as normal trash.
NOTICE (Disposal): These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information. In Europe: Chemical and analysis solutions must be disposed of in compliance with the respective national regulations. Product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system.

14. TRANSPORT INFORMATION

D.O.T.:
D.O.T. Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s.
(N,N-Diethyl 1,4-Benzenediamine Ethanedioate)
Hazard Class: 9

Subsidiary Risk: NA
ID Number: UN3077
Packing Group: III

T.D.G.:

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
(N,N-Diethyl 1,4-Benzenediamine Ethanedioate)
Hazard Class: 9
Subsidiary Risk: NA
PIN: 3077
Group: III

I.C.A.O.:

I.C.A.O. Proper Shipping Name: Environmentally Hazardous Substance, Solid, nos
(N,N-Diethyl 1,4-Benzenediamine Ethanedioate)
Hazard Class: 9
Subsidiary Risk: NA
ID Number: UN3077
Packing Group: III

I.M.O.:

I.M.O. Proper Shipping Name: Environmentally Hazardous Substance, Solid, nos
(N,N-Diethyl 1,4-Benzenediamine Ethanedioate)
Hazard Class: 9
Subsidiary Risk: NA
ID Number: UN3077
Packing Group: III

Additional Information: There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is NOT in a set or kit, the classification given above applies. If the item IS part of a set or kit, the classification would change to the following: UN3316 Chemical Kit, Class 9, PG II or III. If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

U.S. Federal Regulations:

O.S.H.A.: This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard. (29 CFR 1910.1200)

E.P.A.:

S.A.R.A. Title III Section 311/312 Categorization (40 CFR 370): Immediate (Acute) Health Hazard

S.A.R.A. Title III Section 313 (40 CFR 372): This product does NOT contain any chemical subject to the reporting requirements of Section 313 of Title III of SARA.

302 (EHS) TPQ (40 CFR 355): Not applicable

304 CERCLA RQ (40 CFR 302.4): Not applicable

304 EHS RQ (40 CFR 355): Not applicable

Clean Water Act (40 CFR 116.4): Not applicable

RCRA: Contains no RCRA regulated substances.

State Regulations:

California Prop. 65: No Prop. 65 listed chemicals are present in this product.

Identification of Prop. 65 Ingredient(s): None

California Perchlorate Rule CCR Title 22 Chap 33: Not applicable

Trade Secret Registry: Not applicable

National Inventories:

U.S. Inventory Status: TSCA Listed: Yes

CAS Number: 62637-92-7

Canadian Inventory Status: DSL Listed: Yes

EEC Inventory Status: EINECS Listed: Yes

Australian Inventory (AICS) Status: Not Listed

New Zealand Inventory (NZIoC) Status: Listed

Korean Inventory (KECI) Status: Not listed - exempt. Quantity < 100 kg per annum.

Japan (ENCS) Inventory Status: Some ingredients are not listed or exempt.

China (PRC) Inventory (MEP) Status: Listed

16. OTHER INFORMATION

References: 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Cassaret and Doull's Toxicology, 3rd Ed. New York: Macmillan Publishing Co., Inc., 1986. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Association, 1991. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. Technical Judgment. Vendor Information.

Complete Text of H phrases referred to in Section 3: H341 Suspected of causing genetic defects. H317 May cause an allergic skin reaction. H411 Toxic to aquatic life with long lasting effects.

Revision Summary: Substantial revision to comply with EU Reg 1272/2008, Reg 1907/2006 and UN GHS (ST/SG/AC.10/36/Add.3).

Date of MSDS Preparation:

Day: 25

Month: October

Year: 2010

MSDS Prepared: MSDS prepared by Product Compliance Department extension 3350

CCOHS Evaluation Note: It is offered under the interim policy that was established by Health Canada permitting use of GHS-formatted safety data sheets in Canada prior to revision of CPR to GHS. This product has been classified and labeled in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3).

Legend:

NA - Not Applicable	w/w - weight/weight
ND - Not Determined	w/v - weight/volume
NV - Not Available	v/v - volume/volume

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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