

SAFETY DATA SHEET

Preparation Date: 12/12/2016

Revision Date: Not Applicable

Revision Number: Not Applicable

1. IDENTIFICATION

Product identifier

Product code: D1630
Product Name: N,N-Dimethyl-1,4-phenylenediamine Sulfate

Other means of identification

Synonyms: No information available
CAS #: 536-47-0
RTECS # Not available
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: For manufacturing or laboratory use only.
Uses advised against Not for food or drug use.

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000.

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300

Contact Person: Martin LaBenz (West Coast)

Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

| | |
|--|-------------|
| Acute toxicity - Oral | Category 3 |
| Acute toxicity - Dermal | Category 3 |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 3 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2A |
| Specific target organ toxicity (single exposure) | Category 3 |

Label elements

Danger

Hazard statements

Toxic if swallowed
 Toxic if inhaled
 Toxic in contact with skin
 Causes skin irritation

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Causes serious eye irritation
May cause respiratory irritation



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water
Remove/Take off immediately all contaminated clothing
Wash contaminated clothing before reuse
If skin irritation occurs: Get medical advice/attention
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED: Rinse mouth.

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Components | CAS-No. | Weight % |
|---|----------|----------|
| N,N-Dimethyl-1,4-phenylenediamine Sulfate | 536-47-0 | 100 |

4. FIRST AID MEASURES

First aid measures

General Advice: National Capital Poison Center in the United States can provide assistance if you

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have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.

Skin Contact: Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately. Toxic in contact with skin.

Eye Contact: Flush eyes with water for 15 minutes. Get medical attention.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or 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. Immediate medical attention is required.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Call a physician or Poison Control Center immediately. Toxic if swallowed.

Most important symptoms and effects, both acute and delayed

Symptoms Toxic by inhalation, in contact with skin and if swallowed. Causes skin irritation. Causes serious eye irritation. Irritating to respiratory system.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Dry chemical. Carbon dioxide (CO₂). Water spray, mist, or foam.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon Oxides. Nitrogen Oxides. Sulfur Oxides.

Specific hazards: May be combustible at high temperatures

Special Protective Actions for Firefighters

Specific Methods: No information available.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Avoid dust formation. Remove all sources of ignition.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Ensure adequate ventilation. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not breathe dust. Do not ingest. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials. Store in a segregated and approved area. Heat sensitive. Keep refrigerated. Keep at temperatures between 2 and 8 °C. Protect from light. Sensitive to light. Store in light-resistant containers. Moisture sensitive. Protect from moisture. Air sensitive. Store under inert gas. Packed under Argon.

Incompatible Materials:

Acid anhydrides
Acid chlorides
Acids
Chloroformates
Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

| Components | CAS-No. | OSHA | NIOSH | ACGIH | AIHA WHEEL |
|---|----------|------|-------|-------|------------|
| N,N-Dimethyl-1,4-phenylenediamine Sulfate | 536-47-0 | None | None | None | None |

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Canada

| Components | CAS-No. | Canada - Alberta | Canada - British Columbia | Canada - Ontario | Canada - Quebec |
|---|----------|------------------|---------------------------|------------------|-----------------|
| N,N-Dimethyl-1,4-phenylenediamine Sulfate | 536-47-0 | None | None | None | None |

Australia and Mexico

| Components | CAS-No. | Australia | Mexico |
|---|----------|-----------|--------|
| N,N-Dimethyl-1,4-phenylenediamine Sulfate | 536-47-0 | None | None |

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation, especially in confined areas. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection:

Goggles or Safety glasses with side-shields

Skin and body protection:

Gloves. Long sleeved clothing. Chemical resistant apron.

Respiratory protection:

Effective dust mask. or. Wear respirator with dust filter. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures:

Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:

Solid

Appearance:

Crystalline powder.

Color:

White to Off-White.

Odor:

Odorless.

Taste

No information available.

Formula:

C₈H₁₂N₂-H₂SO₄

Molecular/Formula weight:

234.27

Flammability:

No information available

Flashpoint (°C/°F):

No information available.

Flash Point Tested according to:

Not available

Autoignition Temperature (°C/°F):

No information available

Lower Explosion Limit (%):

No information available

Upper Explosion Limit (%):

No information available

Melting point/range(°C/°F):

205°C (401°F) (Dec.)

Decomposition temperature(°C/°F):

No information available

Boiling point/range(°C/°F):

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495°C (923°F)

Bulk density:
No information available

Density (g/cm3):
No information available

Specific gravity:
No information available

pH:
No information available

Vapor pressure @ 20°C (kPa):
No information available

Evaporation rate:
No information available

Vapor density:
No information available

VOC content (g/L):
No information available

Odor threshold (ppm):
No information available

Partition coefficient (n-octanol/water):
No information available

Viscosity:
No information available

Miscibility:
No information available

Solubility:
Soluble in Water

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents

Chemical stability

Stability: Sensitive to light. Sensitive to air. Moisture Sensitive. Heat sensitive. Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Exposure to light. Exposure to air. Exposure to moisture. Avoid excessive heat and light. Avoid dust formation. Incompatible materials.

Incompatible Materials: Acid anhydrides
Acid chlorides
Acids
Chloroformates
Strong oxidizing agents

Hazardous decomposition products: Carbon oxides. Nitrogen oxides (NOx). Sulfur oxides.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Skin. Eyes. Ingestion. Inhalation.

Acute Toxicity

Component Information

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| | |
|---|----------|
| N,N-Dimethyl-1,4-phenylenediamine Sulfate | |
| CAS-No. | 536-47-0 |

LD50/oral/rat = 100 mg/kg
LD50/oral/mouse = 59 mg/kg
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Causes skin irritation. Toxic in contact with skin.
Eye Contact: Causes serious eye irritation.
Inhalation Toxic by inhalation. May cause irritation of respiratory tract.
Ingestion Toxic if swallowed. May cause digestive (gastrointestinal) tract irritation.
Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Prolonged or repeated exposure may cause methemoglobinemia with cyanosis, anemia.
Sensitization: No information available.
Mutagenic Effects: No information available
Carcinogenic effects: Not considered carcinogenic.

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| Components | CAS-No. | IARC | ACGIH - Carcinogens | NTP | OSHA HCS - Carcinogens | Australia - Notifiable Carcinogenic Substances | Australia - Prohibited Carcinogenic Substances |
|--|----------|------------|---------------------|------------|------------------------|--|--|
| N,N-Dimethyl-1,4-phenylene diamine Sulfate | 536-47-0 | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Persistence and degradability: No information available
Bioaccumulative potential: No information available.
Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

| Components | CAS-No. | RCRA - F Series Wastes | RCRA - K Series Wastes | RCRA - P Series Wastes | RCRA - U Series Wastes |
|---|----------|------------------------|------------------------|------------------------|------------------------|
| N,N-Dimethyl-1,4-phenylenediamine Sulfate | 536-47-0 | None | None | None | None |

14. TRANSPORT INFORMATION

DOT UN-No: UN2811

Product code: D1630

Product name:
N,N-Dimethyl-1,4-phenylenediamine Sulfate

Proper Shipping Name: Toxic solids, organic, n.o.s. (N,N-Dimethyl-1,4-phenylenediamine Sulfate)
Hazard Class: 6.1
Subsidiary Class No information available
Packing group: III
Emergency Response Guide Number 154
Marine Pollutant No data available
DOT RQ (lbs): No information available
Special Provisions IB8, IP3, T1, TP33
Symbol(s): No information available
Description: UN2811, Toxic solids, organic, n.o.s. (N,N-Dimethyl-1,4-phenylenediamine Sulfate), 6.1, III

TDG (Canada)

UN-No: UN2811
Proper Shipping Name: Toxic solid, organic, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant No Information available
Description: UN2811, Toxic solid, organic, n.o.s. (N,N-Dimethyl-1,4-phenylenediamine Sulfate), 6.1, III

ADR

UN-No: UN2811
Proper Shipping Name: Toxic solid, organic, n.o.s.
Hazard Class: 6.1
Packing Group: III
Subsidiary Risk: No information available
Special Provisions 274, 614
Description: UN2811, Toxic solid, organic, n.o.s. (N,N-Dimethyl-1,4-phenylenediamine Sulfate), 6.1, III

IMO / IMDG

UN-No: UN2811
Proper Shipping Name: Toxic solids, organic, n.o.s. (N,N-Dimethyl-1,4-phenylenediamine Sulfate)
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant No information available
EMS: F-A
Special Provisions 223, 274
Description UN2811, Toxic solid, organic, n.o.s. (N,N-Dimethyl-1,4-phenylenediamine Sulfate), 6.1, III

RID

UN-No: UN2811
Proper Shipping Name: Toxic solid, organic, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Special Provisions 274, 614
Description: UN2811, Toxic solid, organic, n.o.s. (N,N-Dimethyl-1,4-phenylenediamine Sulfate), 6.1, III

ICAO

UN-No: UN2811
Proper Shipping Name: Toxic solid, organic, n.o.s.

Product code: D1630

Product name:
N,N-Dimethyl-1,4-phenylenediamine
Sulfate

Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Description: UN2811, Toxic solid, organic, n.o.s. (N,N-Dimethyl-1,4-phenylenediamine Sulfate), 6.1, III
Special Provisions A3, A5

IATA

UN-No: UN2811
Proper Shipping Name: Toxic solid, organic, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
ERG Code: 6L
Special Provisions No information available
Description: UN2811, Toxic solid, organic, n.o.s. (N,N-Dimethyl-1,4-phenylenediamine Sulfate), 6.1, III

15. REGULATORY INFORMATION

International Inventories

| Components | CAS-No. | U.S. TSCA | KOREA KECL | Philippines (PICCS) | Japan ENCS | CHINA | Australia (AICS) | EINECS-No. |
|--|----------|-----------|-------------|---------------------|-------------|---------|------------------|----------------------|
| <i>N,N-Dimethyl-1,4-phenylenediamine Sulfate</i> | 536-47-0 | Present | Not present | Not present | Not present | Present | Present | Present 208-636-2 |

U.S. Regulations

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

| Components | CAS-No. | Carcinogen | Developmental Toxicity | Male Reproductive Toxicity | Female Reproductive Toxicity: |
|--|----------|------------|------------------------|----------------------------|-------------------------------|
| <i>N,N-Dimethyl-1,4-phenylenediamine Sulfate</i> | 536-47-0 | Not Listed | Not Listed | Not Listed | Not Listed |

CERCLA/SARA

| Components | CAS-No. | CERCLA - Hazardous Substances and their Reportable Quantities | Section 302 Extremely Hazardous Substances and TPQs | Section 302 Extremely Hazardous Substances and RQs | Section 313 - Chemical Category | Section 313 - Reporting de minimis |
|--|----------|---|---|--|---------------------------------|------------------------------------|
| <i>N,N-Dimethyl-1,4-phenylenediamine Sulfate</i> | 536-47-0 | None | None | None | None | None |

U.S. TSCA

| Components | CAS-No. | TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS) | TSCA 8(d) -Health and Safety Reporting |
|--|----------|---|--|
| <i>N,N-Dimethyl-1,4-phenylenediamine Sulfate</i> | 536-47-0 | Not Applicable | Not Applicable |

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| | | | |
|---------|--|--|--|
| Sulfate | | | |
|---------|--|--|--|

Canada

WHMIS hazard class:

D1B Toxic materials
D2B Toxic materials

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Inventory

| Components | CAS-No. | Canada (DSL) | Canada (NDSL) |
|---|----------|--------------|---------------|
| N,N-Dimethyl-1,4-phenylenediamine Sulfate | 536-47-0 | Present | Not Listed |

| Components | CAS-No. | CEPA Schedule I - Toxic Substances |
|---|----------|---|
| N,N-Dimethyl-1,4-phenylenediamine Sulfate | 536-47-0 | Not listed |
| Components | CAS-No. | CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting |
| N,N-Dimethyl-1,4-phenylenediamine Sulfate | 536-47-0 | Not listed |

EU Classification

R-phrase(s)

R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed.
R36/37/38 - Irritating to eyes, respiratory system and skin.

S -phrase(s)

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 - After contact with skin, wash immediately with plenty of water
S46 - If swallowed, seek medical advice immediately and show this container or label.
S63 - In case of accident by inhalation: remove casualty to fresh air and keep at rest.
S36/37 - Wear suitable protective clothing and gloves.

| Components | CAS-No. | Classification | Concentration Limits: | Safety Phrases |
|---|----------|----------------|-----------------------|----------------|
| N,N-Dimethyl-1,4-phenylenediamine Sulfate | 536-47-0 | | No information | |

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

T - Toxic
Xi - Irritant.

T



Xi



16. OTHER INFORMATION

Preparation Date: 12/12/2016
Revision Date: Not Applicable

Product code: D1630

Product name:
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Prepared by:

Roumann Pangilinan

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet

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