

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** HYDRAZINE SULFATE

**Other means of identification**

**Product No.:** 2177

**Recommended use and restriction on use**

**Recommended use:** Not available.

**Restrictions on use:** Not known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company Name:** Avantor Performance Materials, Inc.  
**Address:** 3477 Corporate Parkway, Suite 200  
Center Valley, PA 18034

**Telephone:** Customer Service: 855-282-6867

**Fax:**  
**Contact Person:** Environmental Health & Safety  
**e-mail:** info@avantormaterials.com

**Emergency telephone number:**

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

## 2. Hazard(s) identification

**Hazard classification**

**Health hazards**

Acute toxicity (Oral)	Category 4
Acute toxicity (Dermal)	Category 3
Acute toxicity (Inhalation - dust and mist)	Category 3
Skin sensitizer	Category 1
Carcinogenicity	Category 1B

**Environmental hazards**

Acute hazards to the aquatic environment	Category 1
Chronic hazards to the aquatic environment	Category 1

**Label elements**

**Hazard symbol:**



**Signal word:**

Danger

**Hazard statement:** Toxic in contact with skin or if inhaled.  
Harmful if swallowed.  
May cause an allergic skin reaction.  
May cause cancer.  
Very toxic to aquatic life with long lasting effects.

**Precautionary statement**

**Prevention:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Keep away from heat/sparks/open flames. - No smoking. Avoid release to the environment.

**Response:** Specific treatment (see this label). IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or doctor/physician if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. Take off immediately all contaminated clothing and wash it before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF exposed or concerned: Get medical advice/attention.

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

**Disposal:** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Other hazards which do not result in GHS classification:** None.

**3. Composition/information on ingredients**

**Substances**

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
HYDRAZINE, SULFATE (1:1)		10034-93-2	99 - 100%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**4. First-aid measures**

**General information:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

**Ingestion:** Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center.

**Inhalation:** Move to fresh air. Call a physician or poison control center immediately. If breathing stops, provide artificial respiration.

**Skin contact:** Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

**Eye contact:** Flush thoroughly with water. If irritation occurs, get medical assistance.

**Most important symptoms/effects, acute and delayed**

**Symptoms:** Toxic in contact with skin. Toxic if inhaled. Harmful if swallowed. May cause allergic skin reaction.

**Indication of immediate medical attention and special treatment needed**

**Treatment:** Treat symptomatically. Symptoms may be delayed.

**5. Fire-fighting measures**

**General fire hazards:** In case of fire and/or explosion do not breathe fumes.

**Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media:** Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media:** None known.

**Specific hazards arising from the chemical:** During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters**

**Special fire fighting procedures:** Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

**Special protective equipment for fire-fighters:** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:** Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**Methods and material for containment and cleaning up:** Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

**Notification Procedures:** Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

**Environmental precautions:** Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

<b>Precautions for safe handling:</b>	Use personal protective equipment as required. Do not get in eyes, on skin, on clothing. Do not breathe mist or vapor. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment.
<b>Conditions for safe storage, including any incompatibilities:</b>	Keep container tightly closed. Keep in a cool, well-ventilated place. Store in a dry place.

## 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

None of the components have assigned exposure limits.

#### Appropriate engineering controls

No data available.

### Individual protection measures, such as personal protective equipment

<b>General information:</b>	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. An eye wash and safety shower must be available in the immediate work area.
<b>Eye/face protection:</b>	Wear safety glasses with side shields (or goggles) and a face shield.
<b>Skin protection</b>	
<b>Hand protection:</b>	Chemical resistant gloves
<b>Other:</b>	Wear suitable protective clothing.
<b>Respiratory protection:</b>	In case of inadequate ventilation use suitable respirator.
<b>Hygiene measures:</b>	Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

## 9. Physical and chemical properties

### Appearance

<b>Physical state:</b>	Solid
<b>Form:</b>	Crystalline Powder.
<b>Color:</b>	White
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	No data available.
<b>pH:</b>	1.3 (0.2 molar aqueous solution)
<b>Melting point/freezing point:</b>	254 °C
<b>Initial boiling point and boiling range:</b>	No data available.
<b>Flash Point:</b>	No data available.
<b>Evaporation rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	No data available.

**Upper/lower limit on flammability or explosive limits**

<b>Flammability limit - upper (%):</b>	No data available.
<b>Flammability limit - lower (%):</b>	No data available.
<b>Explosive limit - upper (%):</b>	No data available.
<b>Explosive limit - lower (%):</b>	No data available.
<b>Vapor pressure:</b>	No data available.
<b>Vapor density:</b>	No data available.
<b>Relative density:</b>	1.37 (20 °C)
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	30 g/l (20 °C)
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Auto-ignition temperature:</b>	No data available.
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.

**Other information**

<b>Molecular weight:</b>	130.12 g/mol (H4N2)
--------------------------	---------------------

**10. Stability and reactivity**

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical stability:</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid:</b>	Excessive heat. Contact with incompatible materials.
<b>Incompatible materials:</b>	Strong oxidizing agents. Metals. Acids.
<b>Hazardous decomposition products:</b>	Oxides of sulfur. Nitrogen Oxides

**11. Toxicological information**

**Information on likely routes of exposure**

<b>Ingestion:</b>	Harmful if swallowed.
<b>Inhalation:</b>	Toxic by inhalation.
<b>Skin contact:</b>	Toxic in contact with skin.
<b>Eye contact:</b>	May cause irritation.

**Information on toxicological effects**

**Acute toxicity (list all possible routes of exposure)**

<b>Oral</b>	
<b>Product:</b>	LD 50 (Rat): 601 mg/kg
<b>Dermal</b>	
<b>Product:</b>	No data available.
<b>Inhalation</b>	
<b>Product:</b>	No data available.

**Repeated dose toxicity**

**Product:** No data available.

**Skin corrosion/irritation**

**Product:** May cause skin irritation.

**Serious eye damage/eye irritation**

**Product:** May irritate eyes.

**Respiratory or skin sensitization**

**Product:** May cause allergic skin reaction.

**Carcinogenicity**

**Product:** May cause cancer.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

**US. National Toxicology Program (NTP) Report on Carcinogens:**

HYDRAZINE, Reasonably Anticipated to be a Human Carcinogen.  
SULFATE (1:1)

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):**

No carcinogenic components identified

**Germ cell mutagenicity**

**In vitro**

**Product:** No mutagenic components identified

**In vivo**

**Product:** No mutagenic components identified

**Reproductive toxicity**

**Product:** No components toxic to reproduction

**Specific target organ toxicity - single exposure**

**Product:** No data available.

**Specific target organ toxicity - repeated exposure**

**Product:** No data available.

**Aspiration hazard**

**Product:** Not classified

**Other effects:** None known.

<b>12. Ecological information</b>
-----------------------------------

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic invertebrates**

**Product:** No data available.

**Chronic hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic invertebrates**

**Product:** No data available.

**Toxicity to Aquatic Plants**

**Product:** No data available.

**Persistence and degradability**

**Biodegradation**

**Product:** There are no data on the degradability of this product.

**BOD/COD ratio**

**Product:** No data available.

**Bioaccumulative potential**

**Bioconcentration factor (BCF)**

**Product:** No data available on bioaccumulation.

**Partition coefficient n-octanol / water (log Kow)**

**Product:** No data available.

**Mobility in soil:** No data available.

**Known or predicted distribution to environmental compartments**

HYDRAZINE, SULFATE (1:1) No data available.

**Other adverse effects:** Very toxic to aquatic life with long lasting effects.

**13. Disposal considerations**

**Disposal instructions:** Discharge, treatment, or disposal may be subject to national, state, or local laws.

**Contaminated packaging:** Since emptied containers retain product residue, follow label warnings even after container is emptied.

**14. Transport information**

**DOT**

UN number:	UN 3260
UN proper shipping name:	Corrosive solid, acidic, inorganic, n.o.s.(HYDRAZINE SULFATE)
Transport hazard class(es)	
Class(es):	8
Label(s):	8
Packing group:	III
Marine Pollutant:	No

**IMDG**

UN number: UN 3260  
 UN proper shipping name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(HYDRAZINE SULFATE)  
 Transport hazard class(es)  
   Class(es): 8  
   Label(s): 8  
   EmS No.: F-A, S-B  
 Packing group: III  
 Marine Pollutant: No

**IATA**

UN number: UN 3260  
 Proper Shipping Name: Corrosive solid, acidic, inorganic, n.o.s.(HYDRAZINE SULFATE)  
 Transport hazard class(es):  
   Class(es): 8  
   Label(s): 8  
 Marine Pollutant: No  
 Packing group: III

**15. Regulatory information**

**US federal regulations**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**  
**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**  
 None present or none present in regulated quantities.

**CERCLA Hazardous Substance List (40 CFR 302.4):**  
 None present or none present in regulated quantities.

**Superfund amendments and reauthorization act of 1986 (SARA)**

**Hazard categories**

Acute (Immediate)  Chronic (Delayed)  Fire  Reactive  Pressure Generating

**SARA 302 Extremely hazardous substance**  
 None present or none present in regulated quantities.

**SARA 304 Emergency release notification**  
 None present or none present in regulated quantities.

**SARA 311/312 Hazardous chemical**

Chemical identity	Threshold Planning Quantity
HYDRAZINE, SULFATE (1:1)	500 lbs

**SARA 313 (TRI reporting)**

Chemical identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
HYDRAZINE, SULFATE (1:1)	10000 lbs	25000 lbs.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**  
 None present or none present in regulated quantities.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**  
 None present or none present in regulated quantities.



**US state regulations**

**US. California Proposition 65**

HYDRAZINE, SULFATE      Carcinogenic.  
(1:1)

**US. New Jersey Worker and Community Right-to-Know Act**

HYDRAZINE, SULFATE (1:1)      Listed

**US. Massachusetts RTK - Substance List**

HYDRAZINE, SULFATE      Listed  
(1:1)

**US. Pennsylvania RTK - Hazardous Substances**

HYDRAZINE, SULFATE      Listed  
(1:1)

**US. Rhode Island RTK**

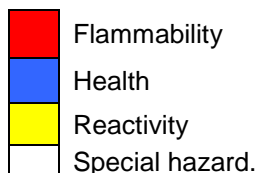
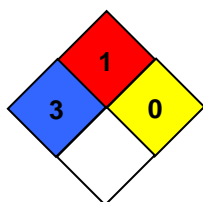
HYDRAZINE, SULFATE      Listed  
(1:1)

**Inventory Status:**

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

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

**NFPA Hazard ID**



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

<b>Issue date:</b>	09-15-2014
<b>Revision date:</b>	No data available.
<b>Version #:</b>	1.1
<b>Further information:</b>	No data available.

**Disclaimer:**

THE INFORMATION PRESENTED IN THIS MATERIAL SAFETY DATA SHEET (MSDS/SDS) WAS PREPARED BY TECHNICAL PERSONNEL BASED ON DATA THAT THEY BELIEVE IN THEIR GOOD FAITH JUDGMENT IS ACCURATE. HOWEVER, THE INFORMATION PROVIDED HEREIN IS PROVIDED "AS IS," AND AVANTOR PERFORMANCE MATERIALS MAKES AND GIVES NO REPRESENTATIONS OR WARRANTIES WHATSOEVER, AND EXPRESSLY DISCLAIMS ALL WARRANTIES REGARDING SUCH INFORMATION AND THE PRODUCT TO WHICH IT RELATES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING WITHOUT LIMITATION<(>,<)> WARRANTIES OF ACCURACY, COMPLETENESS, MERCHANTABILITY, NON-INFRINGEMENT, PERFORMANCE, SAFETY, SUITABILITY, STABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING, COURSE OF PERFORMANCE, OR USAGE OF TRADE. THIS MSDS/SDS IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PROPERLY TRAINED PERSON USING THIS PRODUCT, AND IS NOT INTENDED TO BE COMPREHENSIVE AS TO THE MANNER AND CONDITIONS OF USE, HANDLING, STORAGE, OR DISPOSAL OF THE PRODUCT. INDIVIDUALS RECEIVING THIS MSDS/SDS MUST ALWAYS EXERCISE THEIR OWN INDEPENDENT JUDGMENT IN DETERMINING THE APPROPRIATENESS OF SUCH ISSUES. ACCORDINGLY, AVANTOR PERFORMANCE MATERIALS ASSUMES NO LIABILITY WHATSOEVER FOR THE USE OF OR RELIANCE UPON THIS INFORMATION. NO SUGGESTIONS FOR USE ARE INTENDED AS, AND NOTHING HEREIN SHALL BE CONSTRUED AS, A RECOMMENDATION TO INFRINGE ANY EXISTING PATENTS OR TO VIOLATE ANY FEDERAL, STATE, LOCAL, OR FOREIGN LAWS. AVANTOR PERFORMANCE MATERIALS REMINDS YOU THAT IT IS YOUR LEGAL DUTY TO MAKE ALL INFORMATION IN THIS MSDS/SDS AVAILABLE TO YOUR EMPLOYEES.