



## SAFETY DATA SHEET

Creation Date 11-Sep-2014

Revision Date 05-Dec-2014

Revision Number 1

### 1. Identification

**Product Name** Hydrazine hydrate, 80% (Hydrazine, 51%)  
**Cat No. :** AC209590000; AC209590010; AC209592500  
**Synonyms** None.  
**Recommended Use** Laboratory chemicals.  
**Uses advised against** No Information available  
**Details of the supplier of the safety data sheet**

**Company**  
Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

**Entity / Business Name**  
Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

**Emergency Telephone Number**  
For information **US** call: 001-800-ACROS-01  
/ **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 /  
**Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 /  
**Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### **Classification**

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

Flammable liquids	Category 4
Acute oral toxicity	Category 3
Acute dermal toxicity	Category 3
Acute Inhalation Toxicity - Dusts and Mists	Category 3
Skin Corrosion/irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1
Skin Sensitization	Category 1
Carcinogenicity	Category 1B

#### **Label Elements**

**Signal Word**  
Danger

**Hazard Statements**  
Combustible liquid  
Toxic if swallowed  
Toxic in contact with skin  
Causes severe skin burns and eye damage  
May cause an allergic skin reaction  
Toxic if inhaled  
May cause cancer  
Causes serious eye damage

**Precautionary Statements****Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Use only outdoors or in a well-ventilated area  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Contaminated work clothing should not be allowed out of the workplace  
 Wear protective gloves  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep cool  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ventilating/lighting/equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge  
 Wear protective gloves/protective clothing/eye protection/face protection

**Response**

IF exposed or concerned: Get medical attention/advice

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Call a POISON CENTER or doctor/physician

**Skin**

Wash contaminated clothing before reuse  
 IF ON SKIN: Wash with plenty of soap and water  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
 Immediately call a POISON CENTER or doctor/physician  
 Take off contaminated clothing and wash before reuse

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 Immediately call a POISON CENTER or doctor/physician

**Ingestion**

Rinse mouth  
 Do NOT induce vomiting  
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Storage**

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

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Very toxic to aquatic life with long lasting effects

### 3. Composition / information on ingredients

Component	CAS-No	Weight %
Hydrazine (hydrate)	10217-52-4	80

#### 4. First-aid measures

<b>Eye Contact</b>	Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Inhalation</b>	Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.
<b>Ingestion</b>	Do not induce vomiting. Call a physician or Poison Control Center immediately.
<b>Most important symptoms/effects</b>	Breathing difficulties. Causes burns by all exposure routes. May cause allergic skin reaction. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
<b>Notes to Physician</b>	Treat symptomatically

#### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Water spray. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. chemical foam.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	91 °C / 195.8 °F
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	310 °C / 590 °F
<b>Explosion Limits</b>	
<b>Upper</b>	100%
<b>Lower</b>	4.7%
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

#### **Specific Hazards Arising from the Chemical**

Combustible material. Flammable.

#### **Hazardous Combustion Products**

Nitrogen oxides (NO<sub>x</sub>) Ammonia Hydrogen

#### **Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### **NFPA**

**Health**  
3

**Flammability**  
3

**Instability**  
2

**Physical hazards**  
N/A

#### 6. Accidental release measures

<b>Personal Precautions</b>	Ensure adequate ventilation. Use personal protective equipment.
<b>Environmental Precautions</b>	See Section 12 for additional ecological information. Avoid release to the environment. Collect spillage.

**Methods for Containment and Clean Up** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Do not flush into surface water or sanitary sewer system. Avoid dust formation. Use spark-proof tools and explosion-proof equipment.

## 7. Handling and storage

**Handling** Wear personal protective equipment. Ensure adequate ventilation. Do not breathe dust. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Use only in area provided with appropriate exhaust ventilation.

**Storage** Keep in a dry place. Keep container tightly closed. Keep away from heat and sources of ignition. Keep refrigerated. Store under an inert atmosphere.

## 8. Exposure controls / personal protection

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

**Engineering Measures** Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal Protective Equipment

#### Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

#### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

#### Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Physical State</b>	Liquid
<b>Appearance</b>	Colorless
<b>Odor</b>	Ammonia-like
<b>Odor Threshold</b>	No information available
<b>pH</b>	12 - 640 g/l aq.sol
<b>Melting Point/Range</b>	-57 °C / -70.6 °F
<b>Boiling Point/Range</b>	117.2 °C / 243 °F
<b>Flash Point</b>	91 °C / 195.8 °F
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid,gas)</b>	No information available
<b>Flammability or explosive limits</b>	
<b>Upper</b>	100%
<b>Lower</b>	4.7%
<b>Vapor Pressure</b>	13 mbar @ 20 °C
<b>Vapor Density</b>	1.1 @ 15 °C
<b>Relative Density</b>	1.028
<b>Solubility</b>	No information available
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	310 °C / 590 °F
<b>Decomposition Temperature</b>	No information available
<b>Viscosity</b>	1.33 mPa.s at 20 °C

Molecular Formula H4 N2 . x H2 O  
Molecular Weight 32.04

## 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Do not allow evaporation to dryness. Air sensitive.

**Conditions to Avoid** Exposure to air. Incompatible products.

**Incompatible Materials** Acids, Bases, Powdered metal salts, Halogens, nitrogen oxides (NOx), Organic materials, Peroxides, lead, Metals, copper, Butyl rubber

**Hazardous Decomposition Products** Nitrogen oxides (NOx), Ammonia, Hydrogen

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

### Acute Toxicity

**Oral LD50** Category 3. ATE = 50 - 300 mg/kg.  
**Dermal LD50** Category 3. ATE = 200 - 1000 mg/kg.  
**Vapor LC50** Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

**Component Information**  
**Toxicologically Synergistic Products** No information available

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

**Irritation** No information available

**Sensitization** May cause sensitization by skin contact

**Carcinogenicity** May cause cancer.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Hydrazine (hydrate)	10217-52-4	Not listed				

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known  
**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** See actual entry in RTECS for complete information.

## 12. Ecological information

### Ecotoxicity

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Do not empty into drains.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Hydrazine (hydrate)	Not listed	Not listed	EC50 = 0.01 mg/L 15 min EC50 = 0.01 mg/L 20 min EC50 = 0.02 mg/L 5 min	Not listed

**Persistence and Degradability** No information available

**Bioaccumulation/ Accumulation** No information available.

**Mobility** .

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

UN-No UN2030  
 Proper Shipping Name HYDRAZINE, AQUEOUS SOLUTION  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group II

### TDG

UN-No UN2030  
 Proper Shipping Name HYDRAZINE, AQUEOUS SOLUTION  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group II

### IATA

UN-No UN2030  
 Proper Shipping Name HYDRAZINE, AQUEOUS SOLUTION  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group II

### IMDG/IMO

UN-No UN2030  
 Proper Shipping Name HYDRAZINE, AQUEOUS SOLUTION  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group II

## 15. Regulatory information

### International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Hydrazine (hydrate)	-	-	-	-	-		-	X	-	X	-

#### Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

**N** - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

**P** - Indicates a commenced PMN substance

**R** - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

**S** - Indicates a substance that is identified in a proposed or final Significant New Use Rule

**T** - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

**XU** - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

**Y1** - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

**Y2** - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

### U.S. Federal Regulations

**TSCA 12(b)** Not applicable

**SARA 313** Not applicable

#### **SARA 311/312 Hazardous Categorization**

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

**Clean Water Act** Not applicable

**Clean Air Act** Not applicable

**OSHA** Occupational Safety and Health Administration  
Not applicable

**CERCLA**  
Not applicable

**California Proposition 65** This product does not contain any Proposition 65 chemicals

**State Right-to-Know** Not applicable

### **U.S. Department of Transportation**

Reportable Quantity (RQ):	N
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

**U.S. Department of Homeland Security**  
This product does not contain any DHS chemicals.

### Other International Regulations

**Mexico - Grade** No information available

#### **Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

**WHMIS Hazard Class**

B3	Combustible liquid
D1A	Very toxic materials
E	Corrosive material
D2A	Very toxic materials



## 16. Other information

Prepared By	Regulatory Affairs Thermo Fisher Scientific Email: EMSDS.RA@thermofisher.com
Creation Date	11-Sep-2014
Revision Date	05-Dec-2014
Print Date	05-Dec-2014
Revision Summary	This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

### Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of SDS**