

# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
HPR, Schedule 1

Revision date Not Applicable

Revision Number N/A

## 1. Identification

### Product identifier

Product Name Isosorbide Mononitrate

### Other means of identification

Product Code(s) MM0502.00-0250

### Recommended use of the chemical and restrictions on use

Recommended use Laboratory use

Restrictions on use No information available

### Details of the supplier of the safety data sheet

Will be updated as per company.

### Emergency telephone number

Emergency Telephone

Will be updated as per company.

## 2. Hazard identification

### Classification

Classification according to WHIMIS

Flammable solids

Category 2

### Label elements

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## Warning

## Hazard statements

Classification according to WHIMIS

Flammable solid



## Precautionary Statements - Prevention

Ground and bond container and receiving equipment

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

Wear protective gloves, protective clothing, eye protection and face protection

## Precautionary Statements - Response

### Fire

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

## Other information

May be harmful if swallowed.

## 3. Composition/information on ingredients

### Substance

Formula

C<sub>6</sub> H<sub>9</sub> N O<sub>6</sub>

Chemical name	CAS No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Isosorbide mononitrate	16051-77-7	90 - 100%	-	

## 4. First-aid measures

### Description of first aid measures

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<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Ingestion</b>	Rinse mouth.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).

## Most important symptoms and effects, both acute and delayed

Symptoms No information available.

## Indication of any immediate medical attention and special treatment needed

Note to doctors Treat symptomatically.

## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	None.
<b>Sensitivity to static discharge</b>	Yes.
<b>Special protective equipment and precautions for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take

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precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

## Other information

Ventilate the area.

## Methods and material for containment and cleaning up

### Methods for containment

Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapour suppressing foam may be used to reduce vapours. Keep out of drains, sewers, ditches and waterways.

### Methods for cleaning up

Take precautionary measures against static discharges. Pick up and transfer to properly labelled containers.

## 7. Handling and storage

### Precautions for safe handling

#### Advice on safe handling

Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapours or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions.

### Conditions for safe storage, including any incompatibilities

#### Storage Conditions#

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labelled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Please refer to the manufacturer's certificate for specific storage and transport temperature conditions. Store only in the original receptacle unless other advice is given on the CoA.

## 8. Exposure controls/personal protection

### Control parameters

#### Exposure Limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

### Appropriate engineering controls

#### Engineering controls

Showers  
Eyewash stations

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Ventilation systems.

## Individual protection measures, such as personal protective equipment

<b>Eye/face protection</b>	Tight sealing safety goggles. Avoid contact with eyes. Wear safety glasses with side shields (or goggles).
<b>Hand protection</b>	Wear suitable gloves. Impervious gloves. The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374. Wear protective nitrile rubber gloves.
<b>Skin and body protection</b>	Long sleeved clothing. Chemical resistant apron. Antistatic boots. Wear suitable protective clothing.
<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>Environmental exposure controls</b>	Do not allow into any sewer, on the ground or into any body of water.
<b>General hygiene considerations</b>	Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Solid
<b>Appearance</b>	Solid
<b>Colour</b>	white
<b>Odour</b>	Odourless
<b>Odour threshold</b>	No information available

<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>
<b>pH</b>	No data available	None known
<b>Melting point / freezing point</b>	86 - 88 °C / 186.8 - 190.4 °F	None known
<b>Initial boiling point and boiling range</b>	No data available	None known
<b>Flash point</b>	No data available	None known
<b>Evaporation rate</b>	No data available	None known
<b>Flammability</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Vapour pressure</b>	No data available	None known
<b>Relative vapour density</b>	No data available	None known
<b>Relative density</b>	No data available	None known
<b>Water solubility</b>	Soluble in water	None known

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<b>Solubility in other solvents</b>	No data available	
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>		None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known

## Other information

<b>Explosive properties</b>	No information available.
<b>Oxidising properties</b>	No information available.
<b>Softening point</b>	No information available
<b>Molecular weight</b>	191.14
<b>VOC content</b>	No information available
<b>Liquid Density</b>	No information available
<b>Bulk density</b>	No information available

## 10. Stability and reactivity

### Reactivity

No information available.

### Chemical stability

Stable under normal conditions.

### Possibility of hazardous reactions

None under normal processing.

### Conditions to avoid

Heat, flames and sparks.

### Incompatible materials

None known based on information supplied.

**Hazardous decomposition products** None known based on information supplied.

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	May be harmful if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Symptoms</b>	No information available.
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## Acute toxicity

### Numerical measures of toxicity

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Isosorbide mononitrate 16051-77-7	= 2010 mg/kg ( Rat )	-	-

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

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitisation** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Isosorbide mononitrate 16051-77-7	-	-	-	X

#### Legend

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

X - Present

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

## 12. Ecological information

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Ecotoxicity	The environmental impact of this product has not been fully investigated.
Persistence and degradability	No information available.
Bioaccumulation	No information available.
Other adverse effects	No information available.

## 13. Disposal considerations

### Disposal methods

Waste from residues/unused products	Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

## 14. Transport information

### TDG

UN number or ID number	UN3251
UN proper shipping name	Isosorbide-5-mononitrate
Transport hazard class(es)	4.1
Packing group	III
Marine pollutant	NP.
Description	UN3251, Isosorbide-5-mononitrate, 4.1, III

### DOT

UN number or ID number	UN3251
Extended proper shipping name	Isosorbide-5-mononitrate
Transport hazard class(es)	4.1
Packing group	III
DOT Marine Pollutant	NP.
Description	UN3251, Isosorbide-5-mononitrate, 4.1, III
Special Provisions	66, 159, IB8
Emergency Response Guide Number	133

### MEX

UN number or ID number	UN3251
UN proper shipping name	Isosorbide-5-mononitrate
Transport hazard class(es)	4.1
Packing group	III



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<b>Description</b>	UN3251, Isosorbide-5-mononitrate, 4.1, III
<b>Special Provisions</b>	132, 226
<b>IATA</b>	Forbidden BY PASSENGER AIR
<b>UN number or ID number</b>	UN3251
<b>UN proper shipping name</b>	Isosorbide-5-mononitrate
<b>Transport hazard class(es)</b>	4.1
<b>Packing group</b>	III
<b>ERG Code</b>	3L
<b>Special Provisions</b>	A110
<b>Description</b>	UN3251, Isosorbide-5-mononitrate, 4.1, III
<b>UN number or ID number</b>	UN3251
<b>UN proper shipping name</b>	Isosorbide-5-mononitrate
<b>Transport hazard class(es)</b>	4.1
<b>Packing group</b>	III
<b>EmS-No</b>	F-F, S-G
<b>Special Provisions</b>	226
<b>Marine pollutant</b>	NP
<b>Description</b>	UN3251, Isosorbide-5-mononitrate, 4.1, III

## 15. Regulatory information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### International Regulations

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

#### International Inventories

<b>TSCA</b>	Complies under research and development exemption or is regulated by a different government agency.
<b>DSL/NDSL</b>	Contact supplier for inventory compliance status.
<b>EINECS/ELINCS</b>	Contact supplier for inventory compliance status.
<b>ENCS</b>	Contact supplier for inventory compliance status.
<b>IECSC</b>	Contact supplier for inventory compliance status.
<b>KECL</b>	Contact supplier for inventory compliance status.
<b>PICCS</b>	Contact supplier for inventory compliance status.
<b>AIIC</b>	Contact supplier for inventory compliance status.

#### **Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

## 16. Other information

<b>NFPA</b>	<b>Health hazards</b> 0	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Special hazards</b> -
<b>HMIS</b>	<b>Health hazards</b> 1	<b>Flammability</b> 0	<b>Physical hazards</b> 0	<b>Personal protection</b> X

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### **Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

#### **Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEGL(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

**Revision date** N/A

#### **Disclaimer**

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#### **Disclaimer**

The Final Document will be available at the time of consignment.

# Can vary as per company.

**End of Safety Data Sheet**