

## SAFETY DATA SHEET

Preparation Date: 09/12/2016

Revision Date: Not Applicable

Revision Number: Not Applicable

### 1. IDENTIFICATION

#### Product identifier

**Product code:** M1446  
**Product Name:** Mandelonitrile

#### Other means of identification

**Synonyms:** Acetonitrile, hydroxyphenyl-  
 Amygdalonitrile  
 Benzaldehyde cyanohydrin  
 Glycolonitrile, phenyl-  
 Mandelic acid nitrile

**CAS #:** 532-28-5  
**RTECS #** OO8400000  
**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
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1

#### Label elements

**Danger**

#### **Hazard statements**

Toxic if swallowed  
 Causes skin irritation  
 Causes serious eye damage



**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Not available

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Wear protective gloves  
Wear eye/face protection

**Precautionary Statements - Response**

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.  
IF ON SKIN: Wash with plenty of water  
If skin irritation occurs: Get medical advice/attention  
Take off contaminated clothing and wash it before reuse  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
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 %
Mandelonitrile	532-28-5	100

**4. FIRST AID MEASURES**

**First aid measures**

**General Advice:**

National Capital Poison Center in the United States can provide assistance if you 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 removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.

**Eye Contact:** Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

**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** Causes serious eye damage. Causes skin irritation. Causes digestive (gastrointestinal) tract irritation. May cause gastrointestinal (digestive) tract burns.

**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 (CO<sub>2</sub>). Water spray, mist, or foam.

**Unsuitable Extinguishing Media:** No information available.

**Specific hazards arising from the chemical**

**Hazardous Combustion Products:** Carbon Oxides. Nitrogen 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:** Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering 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. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up** Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. 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. Use only in area provided with appropriate exhaust ventilation. Keep away from incompatible materials.

**Safe Handling Advice**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. 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 container tightly closed in a dry and well-ventilated place. Moisture sensitive. Protect from moisture. Sensitive to light. Store in light-resistant containers. Air sensitive. Store under inert gas. Packed under Argon. Store away from incompatible materials. Store at room temperature in the original container. Store in a segregated and approved area.

**Incompatible Materials:**

Oxidizing agents  
Moisture

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### National occupational exposure limits

##### United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WHEEL
Mandelonitrile	532-28-5	None	None	None	None

##### Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Mandelonitrile	532-28-5	None	None	None	None

### Australia and Mexico

Components	CAS-No.	Australia	Mexico
Mandelonitrile	532-28-5	None	None

### Appropriate engineering controls

#### Engineering measures to reduce exposure:

Ensure adequate ventilation, especially in confined areas. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

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

#### Personal Protective Equipment

- Eye protection:** Goggles
- Skin and body protection:** Gloves. Long sleeved clothing. Chemical resistant apron.
- Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Liquid	<b>Appearance:</b> No information available.	<b>Color:</b> Colorless. Yellow.
<b>Odor:</b> Odorless.	<b>Taste</b> No information available.	<b>Formula:</b> C8H7NO
<b>Molecular/Formula weight:</b> 133.15	<b>Flammability:</b> No information available	<b>Flashpoint (°C/°F):</b> 97°C (207°F)
<b>Flash Point Tested according to:</b> Closed cup	<b>Autoignition Temperature (°C/°F):</b> No information available	<b>Lower Explosion Limit (%):</b> No information available
<b>Upper Explosion Limit (%):</b> No information available	<b>Melting point/range(°C/°F):</b> -10°C (14°F)	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Boiling point/range(°C/°F):</b> 168° - 170°C (334° - 338°F)	<b>Bulk density:</b> No information available	<b>Density (g/cm3):</b> 1.12
<b>Specific gravity:</b> No information available	<b>pH:</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> No information available	<b>Viscosity:</b> No information available

**Miscibility:**  
No information available

**Solubility:**  
Insoluble in water  
Very soluble in Ether  
Very soluble in alcohol  
Very soluble in chloroform

## 10. STABILITY AND REACTIVITY

### Reactivity

Reactive with oxidizing agents

### Chemical stability

**Stability:** Moisture Sensitive. Sensitive to air. Sensitive to light.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Exposure to light. Exposure to air. Exposure to moisture. Incompatible materials.

**Incompatible Materials:** Oxidizing agents  
Moisture

**Hazardous decomposition products:** Carbon oxides. Nitrogen oxides (NOx). Hydrogen cyanide (hydrocyanic acid).

### 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**

Mandelonitrile

CAS-No. 532-28-5

**LD50/oral/rat** = No information available  
**LD50/oral/mouse** = No information available  
**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.

**Eye Contact:** Causes severe eye irritation and possible burns. Corrosive to the eyes and may cause severe damage including blindness. Can cause severe injury.

**Inhalation** May cause irritation of respiratory tract.

**Ingestion** Toxic if swallowed. Causes digestive (gastrointestinal) tract irritation. Causes digestive or gastrointestinal tract burns. Corrosive to the mouth, throat, and stomach.

**Aspiration hazard** No information available.

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

**Chronic Toxicity** No information available.

**Sensitization:** No information available.

**Mutagenic Effects:** Experiments with bacteria have shown mutagenic effects

**Carcinogenic effects:** Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Mandelonitrile	532-28-5	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

**Product code:** M1446

**Product name:** Mandelonitrile

**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**

**Ecotoxicity effects:** No data available.

**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
Mandelonitrile	532-28-5	None	None	None	None

**14. TRANSPORT INFORMATION**

**DOT**

**UN-No:** UN3276  
**Proper Shipping Name:** Nitriles, liquid, toxic, n.o.s.  
**Hazard Class:** 6.1  
**Subsidiary Class** No information available  
**Packing group:** II  
**Emergency Response Guide Number** 151  
**Marine Pollutant** No data available  
**DOT RQ (lbs):** No information available  
**Special Provisions** IB2, T11, TP2, TP27  
**Symbol(s):** No information available  
**Description:** UN3276, NITRILES, LIQUID, TOXIC, N.O.S. (Mandelonitrile), 6.1, II

**TDG (Canada)**

**UN-No:** UN3276  
**Proper Shipping Name:** Nitriles, toxic, liquid, n.o.s.  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II



**Marine Pollutant Description:** No Information available  
UN3276, NITRILES, TOXIC, LIQUID, N.O.S. (Mandelonitrile), 6.1, II

**ADR**

**UN-No:** UN3276  
**Proper Shipping Name:** Nitriles, toxic, liquid, n.o.s.  
**Hazard Class:** 6.1  
**Packing Group:** II  
**Subsidiary Risk:** No information available  
**Special Provisions Description:** 274  
UN3276, NITRILES, TOXIC, LIQUID, N.O.S. (Mandelonitrile), 6.1, II

**IMO / IMDG**

**UN-No:** UN3276  
**Proper Shipping Name:** Nitriles, liquid, toxic, n.o.s.  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Marine Pollutant EMS:** No information available  
F-A  
**Special Provisions Description:** 274  
UN3276, NITRILES, LIQUID, TOXIC, N.O.S. (Mandelonitrile), 6.1, II

**RID**

**UN-No:** UN3276  
**Proper Shipping Name:** Nitriles, liquid, toxic, n.o.s.  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Special Provisions Description:** 274  
UN3276, NITRILES, LIQUID, TOXIC, N.O.S. (Mandelonitrile), 6.1, II

**ICAO**

**UN-No:** UN3276  
**Proper Shipping Name:** Nitriles, liquid, toxic, n.o.s.  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Description:** UN3276, NITRILES, LIQUID, TOXIC, N.O.S. (Mandelonitrile), 6.1, II  
**Special Provisions:** A3, A4, A137

**IATA**

**UN-No:** UN3276  
**Proper Shipping Name:** Nitriles, liquid, toxic, n.o.s.  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**ERG Code:** 6L  
**Special Provisions Description:** No information available  
UN3276, NITRILES, LIQUID, TOXIC, N.O.S. (Mandelonitrile), 6.1, II

**15. REGULATORY INFORMATION**

**International Inventories**

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Mandelonitrile	532-28-5	Present	Not present	Not present	Present (3)-1823	Not present	Not present	Present 208-532-7

## 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:
Mandelonitrile	532-28-5	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
Mandelonitrile	532-28-5	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
Mandelonitrile	532-28-5	Not Applicable	Not Applicable

### Canada

#### WHMIS hazard class:

D2B Toxic materials

D1B Toxic materials

E Corrosive material

#### 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.

Components	WHMIS Ingredient Disclosure List -
Mandelonitrile	1 %

### Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Mandelonitrile	532-28-5	Not Listed	Present

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Mandelonitrile	532-28-5	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Mandelonitrile	532-28-5	Not listed

### EU Classification

#### R-phrase(s)

R25 - Toxic if swallowed.

R36/38 - Irritating to eyes and skin.

#### S-phrase(s)

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S37 - Wear suitable gloves.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Mandelonitrile	532-28-5		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:**

09/12/2016

**Revision Date:**

Not Applicable

**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**