

## SAFETY DATA SHEET

Preparation Date: 4/9/2018

Revision Date: 4/9/2018

Revision Number: G1

### 1. IDENTIFICATION

**Product identifier**

**Product code:** P1083  
**Product Name:** PHENYL ISOTHIOCYANATE, REAGENT

**Other means of identification**

**Synonyms:** Benzene-1-isothiocyanate  
 Benzene, isothiocyanato-  
 Thiocarbanil

**CAS #:** 103-72-0  
**RTECS #** NX9275000  
**CI#:** Not available

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

**Recommended use:** No information available.  
**Uses advised against** No information available

**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 1
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 3

**Label elements**

## Danger

### Hazard statements

Toxic if swallowed  
Causes severe skin burns and eye damage  
May cause allergy or asthma symptoms or breathing difficulties if inhaled  
May cause an allergic skin reaction  
Suspected of causing genetic defects  
Suspected of damaging fertility or the unborn child  
May cause respiratory irritation  
Flammable liquid and vapor



### Hazards not otherwise classified (HNOC)

Not Applicable

### Other hazards

Not available

### Precautionary Statements - Prevention

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

### Precautionary Statements - Response

*Immediately call a POISON CENTER or doctor/physician*  
In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish.  
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 (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse  
If skin irritation or rash occurs: Get medical advice/attention  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. Call a POISON CENTER or doctor/physician if you feel unwell.  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

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Rinse mouth  
Do NOT induce vomiting

**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 %
Phenyl Isothiocyanate	103-72-0	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. Remove all contaminated clothes and shoes. Continue flushing with plenty of water for at least 15 minutes. Immediate medical attention is required. Call a physician immediately.

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

**Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. **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. Call a physician immediately.

**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.

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

**Symptoms**

- Severe skin and eye irritation or burns
- Causes digestive (gastrointestinal) tract irritation
- Irritating to mouth, throat and stomach
- Burning sensation in the mouth and stomach
- Irritating to respiratory system
- May cause build-up of fluid in the lungs (pulmonary edema)
- Dyspnea (Shortness of breath and difficulty breathing)
- Coughing and wheezing
- Laryngitis
- May cause headache
- It may affect the kidneys
- May cause an allergic skin reaction
- May cause allergic respiratory reaction

**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:** Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water spray mist or foam.

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

**Specific hazards arising from the chemical**

**Hazardous Combustion Products:** Carbon Monoxide, Carbon Dioxide. Nitrogen Oxides. Sulfur Oxides.

**Specific hazards:** Combustible material. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated.

**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. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Do not let this chemical enter the environment. 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. Use only non-sparking tools. Clean contaminated surface thoroughly.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

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**Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. 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 ingest. Do not breathe vapors or spray mist. 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 cool, well-ventilated place. Keep refrigerated. Store at 2-8 deg. C. Store away from incompatible materials.

**Incompatible Materials:**

Oxidizing agents  
Acids  
Bases  
Amines

<b>8. EXPOSURE CONTROLS/PERSONAL PROTECTION</b>
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**Control parameters****National occupational exposure limits****United States**

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Phenyl Isothiocyanate	103-72-0	None	None	None	None

**Canada**

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Phenyl Isothiocyanate	103-72-0	None	None	None	None

**Australia and Mexico**

Components	CAS-No.	Australia	Mexico
Phenyl Isothiocyanate	103-72-0	None	None

**Appropriate engineering controls****Engineering measures to reduce exposure:**

Ensure adequate ventilation. 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 or Face-shield

**Skin and body protection:** Long sleeved clothing  
Chemical resistant apron  
Gloves

**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, drink or smoke. 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. Light yellow.
<b>Odor:</b> Odorless.	<b>Taste</b> No information available.	<b>Formula:</b> C6H5NCS
<b>Molecular/Formula weight:</b> 135.18	<b>Flammability:</b> Combustible	<b>Flashpoint (°C/°F):</b> 87°C/188.6 °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> -21 °C/-5.8 °F	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Boiling point/range(°C/°F):</b> 221 °C/429.8 °F	<b>Bulk density:</b> No information available	<b>Density (g/cm3):</b> No information available
<b>Specific gravity:</b> 1.13	<b>pH:</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> 0.2
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> 4.1	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> log Kow = 4.57	<b>Viscosity:</b> No information available
<b>Miscibility:</b> No information available	<b>Solubility:</b> Insoluble in water	

## 10. STABILITY AND REACTIVITY

**Reactivity**  
No information available

### Chemical stability

**Stability:** Stable under recommended storage conditions.

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

**Conditions to avoid:** Heat. Ignition sources. Incompatible materials.

**Incompatible Materials:**  
Oxidizing agents  
Acids  
Bases  
Amines

**Hazardous decomposition products:** No information available.

**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:**  
Ingestion. Inhalation. Skin. Eyes.

### Acute Toxicity

#### Component Information

Phenyl Isothiocyanate	
CAS-No.	103-72-0

**LD50/oral/rat** = No information available  
**LD50/oral/mouse** = 87 mg/kg Oral LD50 Mouse  
**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** = 87 mg/kg

**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 severe irritation and burns.

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**Eye Contact:** Causes severe irritation and burns.

**Inhalation** Irritating to respiratory system. It may cause pulmonary edema. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath. May cause headache.

**Ingestion** Toxic if swallowed. Causes digestive (gastrointestinal) tract irritation. Ingestion may cause nausea, vomiting. It causes irritation or a burning sensation of the mouth and throat. May affect urinary system (kidneys).

**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 allergic respiratory and skin reactions. Skin: Sensitizer. May cause allergic skin reaction (allergic contact dermatitis). Inhalation: May cause allergic respiratory reaction (occupational asthma).

**Sensitization:** May cause sensitization by inhalation and skin contact.

**Mutagenic Effects:** Suspected of causing genetic defects

**Carcinogenic effects:** Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Phenyl Isothiocyanate	103-72-0	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** Suspected of damaging fertility or the unborn child

**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**

**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
Phenyl Isothiocyanate	103-72-0	None	None	None	None

### 14. TRANSPORT INFORMATION

#### DOT

**UN-No:** UN2922  
**Proper Shipping Name:** Corrosive liquids, toxic, n.o.s. (phenylisothiocyanate)  
**Hazard Class:** 8  
**Subsidiary Class** 6.1  
**Packing group:** III  
**Emergency Response Guide Number** 154  
**Marine Pollutant** No data available  
**DOT RQ (lbs):** No information available  
**Special Provisions** IB3, T7, TP1, TP28  
**Symbol(s):** No information available  
**Description:** UN2922, Corrosive liquids, toxic, n.o.s., 8 (6.1), III

#### TDG (Canada)

**UN-No:** UN2922  
**Proper Shipping Name:** Corrosive liquid, toxic, n.o.s.  
**Hazard Class:** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Marine Pollutant** No Information available  
**Description:** UN2922, Corrosive liquid, toxic, n.o.s., 8 (6.1), III

#### ADR

**UN-No:** UN2922  
**Proper Shipping Name:** Corrosive liquid, toxic, n.o.s.  
**Hazard Class:** 8  
**Packing Group:** III  
**Subsidiary Risk:** No information available  
**Special Provisions** 274  
**Description:** UN2922, Corrosive liquid, toxic, n.o.s., 8 (6.1), III

#### IMO / IMDG

**UN-No:** UN2922  
**Proper Shipping Name:** Corrosive liquids, toxic, n.o.s. (phenylisothiocyanate)  
**Hazard Class:** 8  
**Subsidiary Risk:** No information available

**Product code:** P1083

**Product name:** PHENYL  
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**Packing Group:** III  
**Marine Pollutant** No information available  
**EMS:** F-A  
**Special Provisions** 223, 274  
**Description** UN2922, Corrosive liquid, toxic, n.o.s. (PHENYL ISOTHIOCYANATE), 8 (6.1), III

**RID**

**UN-No:** UN2922  
**Proper Shipping Name:** Corrosive liquid, toxic, n.o.s.  
**Hazard Class:** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Special Provisions** 274  
**Description:** UN2922, Corrosive liquid, toxic, n.o.s., 8 (6.1), III

**ICAO**

**UN-No:** UN2922  
**Proper Shipping Name:** Corrosive liquid, toxic, n.o.s.  
**Hazard Class:** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** UN2922, Corrosive liquid, toxic, n.o.s., 8 (6.1), III  
**Special Provisions** A3

**IATA**

**UN-No:** UN2922  
**Proper Shipping Name:** Corrosive liquid, toxic, n.o.s.  
**Hazard Class:** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**ERG Code:** 8P  
**Special Provisions** No information available  
**Description:** UN2922, Corrosive liquid, toxic, n.o.s., 8 (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>Phenyl Isothiocyanate</i>	103-72-0	Present	Present KE-21760	Present	Present (3)-3239	Present	Present	Present 203-138-1

**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:
Phenyl Isothiocyanate	103-72-0	Not Listed	Not Listed	Not Listed	Not Listed

**CERCLA/SARA**

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**Product name:** PHENYL ISOTHIOCYANATE, REAGENT

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
Phenyl Isothiocyanate	103-72-0	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
Phenyl Isothiocyanate	103-72-0	Not Applicable	Not Applicable

## Canada

### WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information: The WHMIS 2015 classification of this product has not been validated or reviewed yet.

**Canada Hazardous Products Regulation** This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

### WHMIS 1988 Hazard Class

The classification of this product has not been validated yet

### 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)
Phenyl Isothiocyanate	103-72-0	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Phenyl Isothiocyanate	103-72-0	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Phenyl Isothiocyanate	103-72-0	Not listed

## EU Classification

### EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Phenyl Isothiocyanate	103-72-0	No information

### EU - CLP (1272/2008)

### R-phrase(s)

Not determined

### S -phrase(s)

not determined

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Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Phenyl Isothiocyanate	103-72-0		No information	

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

**Indication of danger:**  
not determined

## 16. OTHER INFORMATION

**Preparation Date:** 4/9/2018  
**Revision Date:** 4/9/2018  
**Prepared by:** Sonia Owen

**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**