

## SAFETY DATA SHEET

Preparation Date: No data available

Revision Date: 07/01/2015

Revision Number: G1

**Product identifier**

**Product code:** P1072  
**Product Name:** O-PHENYLENEDIAMINE, REAGENT

**Other means of identification**

**Synonyms:** 1,2-Benzenediamine; 1,2-Phenylenediamine; 2-Aminoaniline; o-Benzenediamine; o-Diaminobenzene  
**CAS #:** 95-54-5  
**RTECS #** SS7875000  
**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 by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Gases)	Category 4
Acute toxicity - Inhalation (Vapors)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1B
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 2

**Label elements**

## Warning

### Hazard statements

Harmful if swallowed  
Harmful if inhaled  
Causes skin irritation  
Causes serious eye irritation  
May cause an allergic skin reaction  
Suspected of causing genetic defects  
Suspected of causing cancer



### Hazards not otherwise classified (HNOC)

Not Applicable

### Other hazards

Very toxic to aquatic life with long lasting effects  
Very toxic to aquatic life

### Precautionary Statements - Prevention

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Contaminated work clothing should not be allowed out of the workplace  
Wear protective gloves

### Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention  
Specific treatment (see .? on this label)  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
IF ON SKIN: Wash with plenty of soap and water  
Take off contaminated clothing and wash before reuse  
If skin irritation or rash occurs: Get medical advice/attention  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

### Precautionary Statements - Storage

Store locked up

### Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
o-Phenylenediamine 95-54-5	95-54-5	100	*

## 4. FIRST AID MEASURES

### First aid measures

#### **General Advice:**

Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126)

#### **Skin Contact:**

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention. If skin irritation persists, call a physician.

#### **Eye Contact:**

Flush eye with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

#### **Inhalation:**

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

#### **Ingestion:**

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

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

#### **Symptoms**

Causes serious eye irritation. Eye contact may result in redness or pain. Causes skin irritation. Skin contact may result in redness, pain, inflammation, itching, scaling. May cause allergic skin reaction. Harmful if swallowed or if inhaled. Suspected of causing cancer. Suspected of causing genetic defects.

### 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 oxides, Nitrogen oxides

#### **Specific hazards:**

May be combustible at high temperatures  
When heated to decomposition it emits toxic fumes

### 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. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition.

**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. Cover with plastic sheet to prevent spreading.

**Methods for cleaning up** Sweep up and shovel into suitable containers for disposal. 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. Keep away from incompatible materials.

#### Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapours/dust. 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. Store at room temperature in the original container. Air sensitive.

#### Incompatible Materials:

No information available

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### National occupational exposure limits

##### United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
o-Phenylenediamine 95-54-5	None	None	0.1 mg/m <sup>3</sup> TWA	None

##### Canada

Components	Alberta	British Columbia	Ontario	Quebec
o-Phenylenediamine 95-54-5	0.1 mg/m <sup>3</sup> TWA	0.1 mg/m <sup>3</sup> TWA	0.1 mg/m <sup>3</sup> TWA	0.1 mg/m <sup>3</sup> TWAEV

##### Australia and Mexico

Components	Australia	Mexico
o-Phenylenediamine 95-54-5	suspected carcinogen	None

## Appropriate engineering controls

**Engineering measures to reduce exposure:** Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

## Individual protection measures, such as personal protective equipment

### Personal Protective Equipment

**Eye protection:** Safety glasses Safety glasses with side-shields

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

**Respiratory protection:** Effective dust mask Wear respirator with dust filter.

**Hygiene measures:** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Solid.	<b>Appearance:</b> Crystals.	<b>Color:</b> Yellow Brown.
<b>Odor:</b> No information available	<b>Taste</b> No information available	<b>Molecular/Formula weight:</b> 108.14
<b>Formula:</b> C6H8N2	<b>Flammability:</b> May be combustible at high temperatures	<b>Flash point (°C):</b> No data available
<b>Flashpoint (°C/°F):</b> 156°C/312.8°F	<b>Flash Point Tested according to:</b> Closed cup	<b>Lower Explosion Limit (%):</b> 1.5
<b>Upper Explosion Limit (%):</b> No information available	<b>Autoignition Temperature (°C/°F):</b> No information available	<b>pH:</b> No information available
<b>Melting point/range(°C/°F):</b> 103°-104°C/217.4°-219.2°F	<b>Boiling point/range(°C/°F):</b> 256°-258°C/492.8°-496.4°F	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Bulk density:</b> No information available	<b>Specific gravity:</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Density (g/cm3):</b> No information available	<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> 3.7
<b>VOC content (g/L):</b> No information available	<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> 0.2
<b>Viscosity:</b> No information available	<b>Miscibility:</b> No information available	<b>Solubility:</b> Freely soluble in alcohol Freely soluble in Chloroform Partially soluble in hot water Soluble in Benzene Soluble in diethyl ether

## 10. STABILITY AND REACTIVITY

### Reactivity

Air sensitive

### Chemical stability

**Stability:** Stable under recommended storage conditions

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

**Conditions to avoid:** Heat. Ignition sources. Exposure to air.

**Incompatible Materials:** No information available

**Hazardous decomposition products:** Carbon oxides. Nitrogen oxides (NOx).

### 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:**

None.

### Acute Toxicity

#### **Component Information**

*o*-Phenylenediamine - 95-54-5

**LD50/oral/rat** = 510 mg/kg Oral LD50 Rat

**LD50/oral/mouse** = 366 mg/kg Oral LD50 Mouse

**LD50/dermal/rat** = >5 g/kg Dermal LD50 Rat

**LD50/dermal/rabbit** = No information available

**LC50/inhalation/rat** = 1873 mg/m<sup>3</sup> Inhalation LC50 Rat

**LC50/inhalation/mouse** = > 91 mg/m<sup>3</sup> Inhalation LC50 Mouse

**Other LD50 or LC50 information** = No information available

#### **Product Information**

**LD50/oral/rat** =

**VALUE- Acute Tox Oral** = 510mg/kg

**LD50/oral/mouse** =

**Value - Acute Tox Oral** = 366mg/kg

**LD50/dermal/rabbit**

**VALUE-Acute Tox Dermal** = No information available

**LD50/dermal/rat**

**VALUE -Acute Tox Dermal** = > 5g/kg

**LC50/inhalation/rat**

VALUE-Vapor = No information available

VALUE-Gas = No information available

VALUE-Dust/Mist = 1873mg/m<sup>3</sup>**LC50/Inhalation/mouse**

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = > 91 mg/m<sup>3</sup>**Symptoms**

**Skin Contact:** Causes skin irritation.

**Eye Contact:** Causes serious eye irritation.

**Inhalation** Harmful by inhalation.  
**Ingestion** Harmful if swallowed.

**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:** May cause sensitization by skin contact

**Mutagenic Effects:** May affect genetic material  
Experiments with bacteria and/or yeast have shown mutagenic effects

**Carcinogenic effects:** Suspected of causing cancer.

Components	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
o-Phenylenediamine	Not listed	A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans	Not listed	Not listed	Not listed	Not listed

**Reproductive toxicity** No data is available

**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**

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Ecotoxicity effects:** No data available.

*o*-Phenylenediamine - 95-54-5

**Freshwater Algae Data:** 0.16 mg/L EC50 *Pseudokirchneriella subcapitata* 96 h  
4 mg/L EC50 *Desmodesmus subspicatus* 72 h

**Freshwater Fish Species Data:** 24 mg/L LC50 *Brachydanio rerio* 96 h static 1  
44 mg/L LC50 *Pimephales promelas* 96 h static 1

**Water Flea Data:** 0.87 mg/L EC50 *Daphnia magna* 48 h

**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	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
<i>o</i> -Phenylenediamine	None	None	None	None

## 14. TRANSPORT INFORMATION

### DOT

**UN-No:** UN1673  
**Proper Shipping Name:** Phenylenediamines  
**Hazard Class:** 6.1  
**Subsidiary Risk:**  
**Packing Group:** III  
**ERG No:** 153  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** No information available

**Symbol(s):** +

### TDG (Canada)

**UN-No:** UN1673  
**Proper Shipping Name:** Phenylenediamines  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** No information available



## 14. TRANSPORT INFORMATION

### ADR

**UN-No:** UN1673  
**Proper Shipping Name:** Phenylenediamines (o-, m-, p-)  
**Hazard Class:** 6.1  
**Packing Group:** III  
**Subsidiary Risk:** No information available  
**Classification Code:** No information available  
**Description:** No information available  
**CEFIC Tremcard No:** No information available

### IMO / IMDG

**UN-No:** UN1673  
**Proper Shipping Name:** Phenylenediamines  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** No information available  
**IMDG Page:** No information available  
**Marine Pollutant:** No information available  
**EMS:** F-A  
**MFAG:** No information available  
**Maximum Quantity:** No information available

### RID

**UN-No:** UN1673  
**Proper Shipping Name:** Phenylenediamines  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Classification Code:** No information available  
**Description:** No information available

### ICAO

**UN-No:** UN1673  
**Proper Shipping Name:** Phenylenediamines  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** No information available

### IATA

**UN-No:** UN1673  
**Proper Shipping Name:** Phenylenediamines  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**ERG Code:** 6L  
**Description:** No information available

## 15. REGULATORY INFORMATION

### International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>o</i> -Phenylenediamine	Present	Present KE-02174	Present	Present (3)-185	Present	Present	Present 202-430-6

## U.S. Regulations

### *o*-Phenylenediamine

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: 1495

New Jersey (EHS) List: 1495 500 lb TPQ

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Minnesota - Hazardous Substance List: Present

## California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

### Chemicals Known to the State of California to Cause Cancer:

WARNING: This product contains a chemical known to the State of California to cause cancer. (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	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>o</i> -Phenylenediamine	carcinogen	Not Listed	Not Listed	Not Listed

## CERCLA/SARA

Components	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 <i>de minimis</i>
<i>o</i> -Phenylenediamine	None	None	None	None	1.0 % de minimis concentration

## U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
<i>o</i> -Phenylenediamine	Not Applicable	Not Applicable

## Canada

### WHMIS hazard class:

D1B Toxic materials

D2A Very toxic materials

### 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 -
<i>o</i> -Phenylenediamine	0.1 %

## Inventory

Components	Canada (DSL)	Canada (NDSL)
<i>o</i> -Phenylenediamine	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
<i>o</i> -Phenylenediamine	Not listed	Not listed

Product code: P1072

Product name: O-  
PHENYLENEDIAMINE, REAGENT

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## EU Classification

### R-phrase(s)

R25 - Toxic if swallowed.

R36 - Irritating to eyes.

R40 - Limited evidence of a carcinogenic effect

R43 - May cause sensitization by skin contact.

R20/21 - Harmful by inhalation and in contact with skin.

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### S -phrase(s)

S28 - After contact with skin, wash immediately with plenty of water

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S60 - This material and its container must be disposed of as hazardous waste.

S36/37 - Wear suitable protective clothing and gloves.

Components	Classification	Concentration Limits:	Safety Phrases
o-Phenylenediamine	Xn; R20/21 T; R25 Xi; R36 Carc.Cat.3; R40 R43 N; R50-53 Muta.Cat.3; R68	No information	S1/2 S28 S36/37 S45 S60 S61

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

### Indication of danger:

None.

## 16. OTHER INFORMATION

## 16. OTHER INFORMATION

**Revision Date:** 07/01/2015  
**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**