Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: November 07, 2017 Revision: November 07, 2017

1 Identification

· **Product identifier**

· **Trade name: OPD**
· **Product code:** 90021
· **CAS Number:**
95-54-5

· **Other means of identification:** o-phenylenediamine

· **Recommended use and restriction on use**
· **Recommended use:** Laboratory chemicals
· **Restrictions on use:** For Research Use Only – Not Human or Therapeutic Use

· **Details of the supplier of the Safety Data Sheet**
· **Manufacturer/Supplier:**
Chondrex, Inc.
16928 Woodinville-Redmond Rd NE Suite B-101
Woodinville, WA 98072
USA
425-702-6365
support@chondrex.com
· **Emergency telephone number:**
ChemTel LLC
800-255-3924 (North America)
(+1) 813-248-0585 (International)

2 Hazard(s) identification

· **Classification of the substance or mixture**

Acute Tox. 3	H301	Toxic if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Acute Tox. 4	H332	Harmful if inhaled.
Eye Irrit. 2A	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Muta. 2	H341	Suspected of causing genetic defects.
Carc. 2	H351	Suspected of causing cancer.

· **Label elements**
· **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms:**

GHS06 GHS07 GHS08

· **Signal word:** Danger
· **Hazard statements:**
H301 Toxic if swallowed.
H312+H332 Harmful in contact with skin or if inhaled.

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H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.

· **Precautionary statements:**

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection.
P301+P310	If swallowed: Immediately call a poison center/doctor.
P302+P352	If on skin: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a poison center/doctor if you feel unwell.
P330	Rinse mouth.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

· **Chemical characterization: Substances**
· **CAS No. Description**
95-54-5 o-phenylenediamine

4 First-aid measures

· **Description of first aid measures**
· **After inhalation:**
Supply fresh air.
Call a doctor immediately.
Do not use mouth to mouth or mouth to nose resuscitation.
Provide oxygen treatment if affected person has difficulty breathing.
Use a respiration bag or breathing device.
· **After skin contact:**
Immediately remove any clothing soiled by the product.
Brush off loose particles from skin.

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Wash with soap and water.
If skin irritation continues, consult a doctor.

· **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
A person vomiting while lying on their back should be turned onto their side.

· **Most important symptoms and effects, both acute and delayed:**
Irritating to eyes.
Allergic reactions
Breathing difficulty
Coughing
Gastric or intestinal disorders when ingested.
Vomiting.

· **Danger:**
Toxic if swallowed.
Harmful in contact with skin.
Harmful if inhaled.
Contains o-phenylenediamine. May produce an allergic reaction.
Danger of convulsion.
Danger of disturbed cardiac rhythm.
Danger of pulmonary edema.
May cause genetic defects.
May cause cancer.

· **Indication of any immediate medical attention and special treatment needed:**
If medical advice is needed, have product container or label at hand.
Monitor circulation, possible shock treatment.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray.

· **For safety reasons unsuitable extinguishing agents:** None.

· **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.

· **Advice for firefighters**

· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation.

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Wear protective equipment. Keep unprotected persons away.
Do not breathe dust.

· **Environmental precautions**
Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.

· **Methods and material for containment and cleaning up**
Pick up mechanically.
Dispose of the collected material according to regulations.

· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling**
· **Precautions for safe handling:**
Prevent formation of dust.
Avoid breathing dust.
Avoid contact with the eyes and skin.
Open and handle receptacle with care.
· **Information about protection against explosions and fires:**
Avoid dust cloud formation. Keep ignition sources away. No smoking.

· **Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and receptacles:**
Storage area should be dry and well-ventilated.
· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from oxidizing agents.
· **Further information about storage conditions:** Keep containers tightly sealed.
· **Specific end use(s)** No relevant information available.

8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
95-54-5 o-phenylenediamine	
TLV (USA)	Long-term value: 0.1 mg/m³
EL (Canada)	Long-term value: 0.1 mg/m³
EV (Canada)	Long-term value: 0.1 mg/m³
LMPE (Mexico)	Long-term value: 0.1 mg/m³ A3

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· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Avoid breathing dust.
Avoid contact with the eyes and skin.
Clean skin thoroughly immediately after handling the product.
· **Engineering controls:** No relevant information available.
· **Breathing equipment:**
NIOSH or EU approved dust respirator should be used for operations generating dust.
· **Protection of hands:**

Protective gloves

· **Material of gloves** Butyl rubber, BR
· **Eye protection:**

Safety glasses

· **Body protection:** Protective work clothing
· **Limitation and supervision of exposure into the environment** No special requirements.
· **Risk management measures** No special requirements.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **Appearance:**	
Form:	Powder
Color:	White
· **Odor:**	Odorless
· **Odor threshold:**	Not determined.
· **pH-value:**	Not applicable.
· **Melting point/Melting range:**	101 °C (213.8 °F)
· **Boiling point/Boiling range:**	256 °C (492.8 °F)
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Product is not flammable.
· **Auto-ignition temperature:**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Danger of explosion:**	Can pose a dust explosion hazard if dispersed in air.

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· **Explosion limits**	
Lower:	Not determined.
Upper:	Not determined.
· **Oxidizing properties:**	Non-oxidizing.
· **Vapor pressure:**	Not applicable.
· **Density:**	
Relative density at 24 °C (75.2 °F):	0.74
Vapor density:	Not applicable.
Evaporation rate:	Not applicable.
· **Solubility in / Miscibility with**	
Water at 20 °C (68 °F):	31 g/l
· **Partition coefficient (n-octanol/water) at 25 °C (77 °F):**	0.16 log POW
· **Viscosity**	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· **Other information**	No relevant information available.

10 Stability and reactivity

· **Reactivity:** No relevant information available.
· **Chemical stability:** Stable under normal temperatures and pressures.
· **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition, do not overheat.
· **Possibility of hazardous reactions**
As the product is supplied it is not capable of dust explosion; however enrichment with fine dust causes risk of dust explosion.
Reacts with strong oxidizing agents.
· **Conditions to avoid** Prevent formation of dust.
· **Incompatible materials** Oxidizers
· **Hazardous decomposition products**
Carbon monoxide
Nitrogen oxides

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
95-54-5 o-phenylenediamine		
Oral	LD50	794-1000 mg/kg (mouse) 900-1418 mg/kg (rat)

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Inhalative	LC50/4h	3.6 mg/l (rat)

· **Primary irritant effect:**
· **On the skin:** Based on available data, the classification criteria are not met.
· **On the eye:** Irritating effect.
· **Sensitization:** Sensitization possible through skin contact.

· **IARC (International Agency for Research on Cancer):**
Substance is not listed.
· **NTP (National Toxicology Program):**
Substance is not listed.
· **OSHA-Ca (Occupational Safety & Health Administration):**
Substance is not listed.

· **Probable route(s) of exposure:**
Ingestion.
Inhalation.
Eye contact.
Skin contact.
· **Acute effects (acute toxicity, irritation and corrosivity):**
Toxic if swallowed.
Harmful in contact with skin.
Harmful if inhaled.
Irritating to eyes.
· **Germ cell mutagenicity:** Suspected of causing genetic defects.
· **Carcinogenicity:** Suspected of causing cancer.
· **Reproductive toxicity:** Based on available data, the classification criteria are not met.
· **STOT-single exposure:** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
· **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity** Toxic to aquatic life with long lasting effects.
· **Persistence and degradability** No relevant information available.
· **Bioaccumulative potential:** No relevant information available.
· **Mobility in soil:** No relevant information available.
· **Additional ecological information**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No relevant information available.

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13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

· **Uncleaned packagings**
· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN1673
· **UN proper shipping name**	
· **DOT, IATA**	phenylenediamines
· **ADR, IMDG**	PHENYLENEDIAMINES
· **Transport hazard class(es)**	
· **DOT**	
· **Class**	6.1 Toxic substances
· **Label**	6.1
· **ADR**	
· **Class**	6.1 (T2) Toxic substances
· **Label**	6.1
· **IMDG, IATA**	
· **Class**	6.1 Toxic substances
· **Label**	6.1
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	III

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· **Environmental hazards**
· **Marine pollutant:**

Yes

· **Special precautions for user**	Warning: Toxic substances
· **Danger code (Kemler):**	60
· **EMS Number:**	6.1-04
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.

· **Transport/Additional information:**

Excepted Quantities (EQ)
EQ Code: E1
Maximum net quantity per inner packaging: 30 g
Maximum net quantity per outer packaging: 1 kg

· **DOT** Labeling as a Marine Pollutant is only required for bulk single package shipments. Bulk packaging consists of a maximum capacity of greater than 450 L (119 gallons) for a liquid and a maximum net mass greater than 400 kg (882 pounds) for a solid. (See 171.4(c))

Limited Quantity for packages less than 30 kg gross and inner packagings less than 5 kg each.

· **ADR** Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to provisions relevant to marine pollutants. (See 5.2.1.8.1)

Limited Quantity for packages less than 30 kg gross and inner packagings less than 5 kg each.

· **IMDG** Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to provisions relevant to marine pollutants. (See 2.10.2.7)

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Limited Quantity for packages less than 30 kg gross and inner packagings less than 5 kg each.

· **IATA**

Limited Quantity for packages less than 30 kg gross and inner packagings less than 1 kg each / 10 kg net.

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **United States (USA)**
· **SARA**

· **Section 302 (extremely hazardous substances):**
Substance is not listed.
· **Section 355 (extremely hazardous substances):**
Substance is not listed.
· **Section 313 (Specific toxic chemical listings):**
Substance is listed.
· **TSCA (Toxic Substances Control Act)**
Substance is listed.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**
Substance is listed.
· **Chemicals known to cause reproductive toxicity for females:**
Substance is not listed.
· **Chemicals known to cause reproductive toxicity for males:**
Substance is not listed.
· **Chemicals known to cause developmental toxicity:**
Substance is not listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency):**
Substance is not listed.
· **IARC (International Agency for Research on Cancer):**
Substance is not listed.
· **NIOSH-Ca (National Institute for Occupational Safety and Health):**
Substance is not listed.

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· **Canadian Domestic Substances List (DSL):**

Substance is listed.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** November 07, 2017 / -

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistant, Bio-accumulable, Toxique
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety and Health
OSHA: Occupational Safety & Health Administration
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 2: Carcinogenicity – Category 2

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers

SDS Prepared by:
ChemTel Inc.
1305 North Florida Avenue
Tampa, Florida USA 33602-2902
Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573
Website: www.chemtelinc.com