

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 06/25/2015

Reviewed on 06/25/2015

* **1 Identification**

- **Product identifier**
- **Trade name: o-Phthalaldehyde (OPA)**
- **Product number:** O120
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Product description** o-Phthalaldehyde (OPA)
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Pickering Laboratories, Inc.
1280 Space Park Way
Mountain View, CA 94043
Phone: (650) 694-6700
Fax: (650) 968-0749
www.pickeringlabs.com
support@pickeringlabs.com
- **Emergency telephone number:**
Clean Harbors Environmental Services
1-800-645-8265

* **2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.



GHS05 Corrosion

Skin Corr. 1C H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.



GHS09 Environment

Aquatic Acute 1 H400 Very toxic to aquatic life.
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

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

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Trade name: o-Phthalaldehyde (OPA)

· **Hazard pictograms**



GHS05 GHS06 GHS07 GHS09

· **Signal word** Danger

· **Hazard-determining components of labeling:**

phthalaldehyde

· **Hazard statements**

Toxic if swallowed.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

· **Precautionary statements**

Do not breathe dusts or mists.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wear protective gloves.

Wear eye protection / face protection.

Avoid release to the environment.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing must not be allowed out of the workplace.

If swallowed: Immediately call a poison center/doctor.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Wash contaminated clothing before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

If swallowed: Rinse mouth. Do NOT induce vomiting.

If on skin: Wash with plenty of water.

Collect spillage.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 3

Fire = 1

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



HEALTH 3 Health = 3

FIRE 1 Fire = 1

REACTIVITY 0 Reactivity = 0

· **Hazard(s) not otherwise classified (HNOC):** None known

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* 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous Components:**

CAS: 643-79-8	phthalaldehyde	☠ Acute Tox. 2, H300	100%
RTECS: TH 6950000			

* 4 First-aid measures

- **Description of first aid measures**
- **General information:** In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**
Supply fresh air.
If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- **After skin contact:**
Immediately flush with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Seek medical assistance.
- **After eye contact:**
Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
- **After swallowing:**
Do not induce vomiting.
If conscious, rinse mouth with water ensuring that the rinse is not swallowed. Seek medical assistance.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed:** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

* 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
Carbon Dioxide (CO₂)
Carbon monoxide (CO)
- **Advice for firefighters**
- **Protective equipment:**
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

* 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Avoid breathing dust.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.

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Use the appropriate tools to collect the material and dispose of it in an approved waste disposal container. Dispose contaminated material as waste according to section 13.

· **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**

Ensure good ventilation/exhaustion at the workplace.

Avoid contact with skin, eyes and clothing

Avoid breathing dust.

Use personal protection equipment as outlined in section 8.

· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store in dry conditions at a temperature range of 8°C - 25°C.

Handle and store under inert gas. Hygroscopic. Air and moisture sensitive.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep receptacle tightly sealed.

· **Specific end use(s)** No further relevant information available.

* 8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters**

· **Components with occupational exposure limits:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists that were valid during the creation of this SDS were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Use adequate exhaust ventilation to prevent inhalation of dust particles.

Do not eat or drink while handling product.

Avoid contact with the eyes and skin.

Wash hands before breaks and at the end of work.

Immediately remove all soiled and contaminated clothing and wash before reuse.

· **Breathing equipment:**



NIOSH/OSHA or EN approved respiratory protection is recommended for use in airborne concentrations exceeding exposure limits.

· **Protection of hands:**



Protective gloves

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- **Material of gloves** Rubber, latex or vinyl.
- **Penetration time of glove material**
The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.
- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Lab coat

* 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Crystalline

Color: Yellow

· **Odor:** Slight

· **Odor threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range: 55-58 °C (131-136 °F)

Boiling point/Boiling range: 83 °C (181 °F)

· **Flash point:** 132 °C (270 °F)

· **Flammability (solid, gaseous):** Not determined.

· **Ignition temperature:**

Decomposition temperature: Not determined.

· **Auto igniting:** Product is not self-igniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

· **Vapor pressure:** Not applicable.

· **Density @ 20 °C (68 °F):** 0.37 g/cm³ (3.088 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not applicable.

· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with**

Water: Slightly soluble.
0.62 g/100 ml

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic: Not applicable.

Kinematic: Not applicable.

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· **Other information** No further relevant information available.

* **10 Stability and reactivity**

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid**
Dust generation.
Avoid strong oxidizers.
- **Incompatible materials:** Strong oxidizing agents.
- **Hazardous decomposition products:** No dangerous decomposition products known.
- **Additional information:** Light and air sensitive.

* **11 Toxicological information**

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

· LD/LC50 values that are relevant for classification:		
643-79-8 phthalaldehyde		
Oral	LD50	178 mg/kg (rat)
Dermal	LD50	>2.000 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:**
Mild irritant effect.
Strong caustic effect on skin and mucous membranes.
Emissions from broken bulbs may cause an allergic skin reaction.
- **on the eye:**
Mild irritant effect.
Strong irritant with the danger of severe eye injury.
Corrosive effect.
Causes serious eye irritation.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic
Corrosive
Irritant
Swallowing will lead to a corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**
Substance is not listed.

None of the ingredients are listed.

- **NTP (National Toxicology Program)**

None of the ingredients are listed.

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· OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients are listed.

*** 12 Ecological information**

- **Toxicity**
- **Aquatic toxicity:**
Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
Do not allow undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.
Poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

*** 13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation:**
Do not allow product to reach sewage system.
This product may be mixed with a combustible solvent and burned in a chemical incinerator equipped with an after burner and scrubber. This product can also be sent to an EPA approved waste disposal facility.
Observe all federal, state and local environmental regulations when disposing of this material.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

*** 14 Transport information**

- | | |
|---|---|
| <ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA · UN proper shipping name · DOT · ADR · IMDG · IATA | <p>UN2811</p> <p>Toxic solids, organic, n.o.s. (phthalaldehyde)</p> <p>UN2811 Toxic solids, organic, n.o.s. (phthalaldehyde), ENVIRONMENTALLY HAZARDOUS</p> <p>TOXIC SOLID, ORGANIC, N.O.S. (phthalaldehyde), MARINE POLLUTANT</p> <p>TOXIC SOLID, ORGANIC, N.O.S. (phthalaldehyde)</p> |
|---|---|

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· **Transport hazard class(es)**

· **DOT**



- **Class** 6.1 Toxic substances
- **Label** 6.1

· **ADR**



- **Class** 6.1 (T2) Toxic substances
- **Label** 6.1

· **IMDG**



- **Class** 6.1 Toxic substances
- **Label** 6.1

· **IATA**



- **Class** 6.1 Toxic substances
- **Label** 6.1
- **Packing group**
- **DOT, ADR, IMDG, IATA** III
- **Environmental hazards:**
- **Special marking (ADR):** Symbol (fish and tree)
- **Special precautions for user** Warning: Toxic substances
- **Danger code (Kemler):** 60
- **EMS Number:** F-A,S-A
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

- **DOT**
- **Quantity limitations** On passenger aircraft/rail: 25 kg
On cargo aircraft only: 100 kg
- **Remarks:** Special marking with the symbol (fish and tree).

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Trade name: o-Phthalaldehyde (OPA)

- **ADR**
- **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 g
Maximum net quantity per outer packaging: 1000 g

- **IMDG**
- **Limited quantities (LQ)** 500 g
- **Excepted quantities (EQ)** Code: E4
Maximum net quantity per inner packaging: 1 g
Maximum net quantity per outer packaging: 500 g
- **UN "Model Regulation":** UN2811, Toxic solids, organic, n.o.s. (phthalaldehyde), ENVIRONMENTALLY HAZARDOUS, 6.1, III

***15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

<ul style="list-style-type: none"> · Section 355 (extremely hazardous substances):
None of the ingredients are listed.

<ul style="list-style-type: none"> · Section 313 (Specific toxic chemical listings):
None of the ingredients are listed.

<ul style="list-style-type: none"> · TSCA (Toxic Substances Control Act):
All ingredients are listed.

· **California Proposition 65**

<ul style="list-style-type: none"> · Chemicals known to cause cancer:
None of the ingredients are listed.

<ul style="list-style-type: none"> · Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.

<ul style="list-style-type: none"> · Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.

<ul style="list-style-type: none"> · Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

- **Carcinogenic categories**

<ul style="list-style-type: none"> · EPA (Environmental Protection Agency)
None of the ingredients are listed.

<ul style="list-style-type: none"> · TLV (Threshold Limit Value established by ACGIH)
None of the ingredients are listed.

<ul style="list-style-type: none"> · NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients are listed.

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

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· **Hazard pictograms**



GHS05 GHS06 GHS07 GHS09

· **Signal word** Danger

· **Hazard-determining components of labeling:**

phthalaldehyde

· **Hazard statements**

Toxic if swallowed.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

· **Precautionary statements**

Do not breathe dusts or mists.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wear protective gloves.

Wear eye protection / face protection.

Avoid release to the environment.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing must not be allowed out of the workplace.

If swallowed: Immediately call a poison center/doctor.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Wash contaminated clothing before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

If swallowed: Rinse mouth. Do NOT induce vomiting.

If on skin: Wash with plenty of water.

Collect spillage.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

The product is subject to be classified according with the latest version of the regulations on hazardous substances.

· **State Right to Know**

CAS: 643-79-8	phthalaldehyde	Acute Tox. 2, H300	100%
RTECS: TH 6950000			

All ingredients are listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

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The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· **Date of preparation / last revision** 06/25/2015 / 4

· **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 2: Acute toxicity, Hazard Category 2

Acute Tox. 3: Acute toxicity, Hazard Category 3

Skin Corr. 1C: Skin corrosion/irritation, Hazard Category 1C

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

· *** Data compared to the previous version altered.**

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