

Safety Data Sheet

OSHA HazCom Standard 29 CFR 1910.1200(g) revised in 2024 and GHS Rev 07

Date of issue: 02/12/2025

Revised on 02/12/2025

1 Identification

- **Product Identifier**
- **Trade Name: o-Phthalaldehyde (OPA)**
- **Other means of identification**
- **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:**



Skull and crossbones

Acute toxicity - oral 3 H301 Toxic if swallowed.



Corrosion

Skin corrosion 1C H314 Causes severe skin burns and eye damage.

Eye damage 1 H318 Causes serious eye damage.



Environment

Aquatic Acute 1 H400 Very toxic to aquatic life.



Sensitization - skin 1 H317 May cause an allergic skin reaction.

- **Label elements:**
- **Hazard pictograms:**



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· **Signal word:** Danger

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

phthalaldehyde

· **Hazard statements:**

- H301 Toxic if swallowed.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H400 Very toxic to aquatic life.

· **Precautionary statements:**

- P260 Do not breathe dusts or mists.
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P272 Contaminated work clothing must not be allowed out of the workplace.
- P273 Avoid release to the environment.
- P280 Wear protective gloves / eye protection / face protection.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P310 If swallowed: Immediately call a poison center/doctor.
- P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
- P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
- P302+P352 If on skin: Wash with plenty of water.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- 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.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P363 Wash contaminated clothing before reuse.
- P391 Collect spillage.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Unknown acute toxicity:**

This value refers to knowledge of known, established toxicological or ecotoxicological values.
0 % of the mixture consists of component(s) of unknown toxicity.

· **Information pertaining to particular dangers for man and environment:**

· **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

· **NFPA ratings (scale 0 - 4)**

1	Health = 3
3	Fire = 1
0	Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

HEALTH	3	Health = 3
FIRE	1	Fire = 1
REACTIVITY	0	Physical Hazard = 0

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

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· **Classification according to (d)(1)(ii) of § 1910.1200**

The SDS issuer does not object to the classifications provided by importers or manufacturers of precursor products.

· **Hazards not otherwise classified**

There are no adverse physical or health effects known that are not covered by the hazard classes of the Hazard Communications Standard.

* **3 Composition/Information on Ingredients**

· **Chemical characterization: Substance**

· **Description:**

Mixture of substances listed with non-hazardous additions and/or components that are less than listing threshold. All non-hazardous, components listed under threshold, and listed component total 100%.

· **Dangerous Components:**

CAS: 643-79-8	phthalaldehyde	 Acute toxicity - oral 3, H301	100%
RTECS: TH 6950000			

· **Additional information:**

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

* **4 First-Aid Measures**

· **Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.
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.
In case of unconsciousness place patient stably in the side position for transportation.

· **After skin contact:**

Immediately flush with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Seek medical assistance.
Immediately wash with water and soap and rinse thoroughly.
If skin irritation occurs, consult a doctor.
Wash with soap and water.

· **After eye contact:**

Get immediate medical attention.
Have eyes examined and tested by medical personnel.
Rinse opened eye for several minutes under running water. Then consult a doctor.
If easy to do so, remove contact lenses if worn.
If eye irritation occurs, consult a doctor.
Rinse opened eye for several minutes under running water.

· **After swallowing:**

Do not induce vomiting; immediately call for medical help.
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
If swallowed and symptoms occur, consult a doctor.
If conscious, rinse mouth with water ensuring that the rinse is not swallowed. Seek medical assistance.

· **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.

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*** 5 Fire-Fighting Measures**

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** No further relevant information.
- **Special hazards arising from the substance or mixture:**
Carbon Dioxide (CO₂)
Carbon monoxide (CO)
- **Advice for firefighters**
- **Special protective equipment for firefighters:**
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.
- **Methods and material for containment and cleaning up:**
Use the appropriate tools to collect the material and dispose of it in an approved waste disposal container.
Use neutralizing agent.
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.
Dispose of the collected material according to regulations.

· **PAC-1:**
None of the ingredients are listed.

· **PAC-2:**
None of the ingredients are listed.

· **PAC-3:**
None of the ingredients are listed.

- **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

- **Precautions for safe handling:**
Avoid contact with skin, eyes and clothing
Avoid breathing dust.
Use personal protection equipment as outlined in section 8.
Avoid creating and breathing dust/fume/gas/mist/vapors/spray.
- **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.

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- **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**

· **Control parameters:**

· Components with occupational exposure limits:	
643-79-8 phthalaldehyde	
TLV	Long-term value: 25µg/100 cm ² *** mg/m ³ Ceiling limit value: 0.1* mg/m ³ *ppb vapor fraction, ***TLV-SL;Skin,DSEN,RSEN

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

· **Exposure controls:**

· **Appropriate engineering controls** No further data; see section 7.

· **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.

Keep away from foodstuffs, beverages and feed.

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

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Breathing equipment:**



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

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Material of gloves:**

Latex or vinyl

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

· **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

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- **Limitation and supervision of exposure into the environment:**
Keep away from drains, surface and ground waters.
Avoid release into the environment.

*** 9 Physical and Chemical Properties**

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

· **General Information**

- **Physical state** Solid
- **Color:** Yellow
- **Odor:** Odorless
- **Odor threshold:** Not determined.
- **Melting point/Melting range:** 55-58 °C (131-136.4 °F)
- **Boiling point/Boiling range:** Not determined.
- **Flammability:** Not determined.
- **Explosion limits:**
- **Lower:** Not determined.
- **Upper:** Not determined.
- **Flash point:** 132 °C (269.6 °F)
- **Auto igniting:** Not applicable
- **Decomposition temperature:** Not determined.
- **pH-value:** Not applicable.
- **Viscosity:**
- **Kinematic:** Not applicable.
- **Dynamic:** Not applicable.
- **Solubility in / Miscibility with:**
- **Water:** Slightly soluble
0.62 g/100 ml
- **Partition coefficient (n-octanol/water):** Not determined.
- **Vapor pressure:** Not applicable.
- **Vapor pressure:**
- **Density @ 20 °C (68 °F):** 0.37 g/cm³ (3.0877 lbs/gal)
- **Relative density:** Not determined.
- **Vapor density:** Not applicable.
- **Particle characteristics** Not determined.
- **Other information:**
- **Appearance:**
- **Form:** Crystalline
- **Important information on protection of health and environment, and on safety.**
- **Ignition temperature:** Product is not self-igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Solvent content:**
- **VOC content:** 0.00 %
- **Solids content:** 100.0 %
- **Change in condition**
- **Evaporation rate:** Not applicable.

10 Stability and Reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:** Stable under normal conditions.

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- **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.
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.
- **Interactive effects** No interactive effects between components are known.

· **Carcinogenic categories:**

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **NTP (National Toxicology Program):**

None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

· **Alternative sources for toxicological information**

No non-standard sources for toxicological information where used.

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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.
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse 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.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms

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.
Must not be disposed of together with household waste. Do not allow product to reach sewage system.
Observe all federal, state and local environmental regulations when disposing of this material.
- **Uncleaned packaging**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

*14 Transport Information

- **UN-Number:**
- **DOT, ADR/ADN, IMDG, IATA** UN2923
- **UN proper shipping name:**
- **DOT** Corrosive solids, toxic, n.o.s. (phthalaldehyde)
- **ADR/ADN** UN2923 CORROSIVE SOLID, TOXIC, N.O.S. (phthalaldehyde)
- **IMDG, IATA** CORROSIVE SOLID, TOXIC, N.O.S. (phthalaldehyde)
- **Transport hazard class(es):**
- **DOT**



- **Class:** 8 Corrosive substances

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Trade Name: o-Phthalaldehyde (OPA)

· **Label:** 8, 6.1

· **ADR/ADN**



· **Class:** 8 (CT2) Corrosive substances
 · **Label:** 8+6.1

· **IMDG**



· **Class:** 8 Corrosive substances
 · **Label:** 8/6.1

· **IATA**



· **Class:** 8 Corrosive substances
 · **Label:** 8 (6.1)

· **Packing group:**

· **DOT, ADR/ADN, IMDG, IATA** II

· **Environmental hazards:**

· **Special marking (ADR/ADN):** Symbol (fish and tree)

· **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: 15 kg
 On cargo aircraft only: 50 kg

· **ADR/ADN**

· **Excepted quantities (EQ):** Code: E2
 Maximum net quantity per inner packaging: 30 g
 Maximum net quantity per outer packaging: 500 g

· **IMDG**

· **Limited quantities (LQ):** 1 kg
 · **Excepted quantities (EQ):** Code: E2

Maximum net quantity per inner packaging: 30 g
 Maximum net quantity per outer packaging: 500 g

· **Special precautions for user:** Warning: Corrosive substances

· **Hazard identification number (Kemler code):** 86

· **EMS Number:** F-A,S-B

· **Stowage Category:** B

· **Stowage Code:** SW2 Clear of living quarters.

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Trade Name: o-Phthalaldehyde (OPA)

- **UN "Model Regulation":** UN 2923 CORROSIVE SOLID, TOXIC, N.O.S. (PHTHALALDEHYDE), 8 (6.1), II

15 Regulatory Information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
No further relevant information available.

- **SARA (Superfund Amendments and Reauthorization):**

<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 components have the value ACTIVE.

<ul style="list-style-type: none"> · Hazardous Air Pollutants
None of the ingredients are listed.

- **California Proposition 65:**

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

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

- **New Jersey Right-to-Know List:**

None of the ingredients are listed.

- **New Jersey Special Hazardous Substance List:**

None of the ingredients are listed.

- **Pennsylvania Right-to-Know List:**

None of the ingredients are listed.

- **Pennsylvania Special Hazardous Substance List:**

None of the ingredients are listed.

- **Carcinogenic categories:**

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

- **TLV (Threshold Limit Value established by ACGIH):**

None of the ingredients are listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health):**

None of the ingredients are listed.

- **GHS label elements**

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

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· **Hazard pictograms:**



· **Signal word:** Danger

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

phthalaldehyde

· **Hazard statements:**

H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H400 Very toxic to aquatic life.

· **Precautionary statements:**

P260 Do not breathe dusts or mists.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P272 Contaminated work clothing must not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves / eye protection / face protection.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 If swallowed: Immediately call a poison center/doctor.

P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.

P302+P352 If on skin: Wash with plenty of water.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

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.

P362+P364 Take off contaminated clothing and wash it before reuse.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P363 Wash contaminated clothing before reuse.

P391 Collect spillage.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

The product is not subject to be labelled according with the prevailing version of the regulations on hazardous substances.

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

16 Other Information

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 previous version** 02/04/2021

· **Version number of previous version:** 8

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· **Date of preparation** 02/12/2025

· **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

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)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety & Health Administration

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute toxicity - oral 3: Acute toxicity – Category 3

Skin corrosion 1C: Skin corrosion/irritation – Category 1C

Eye damage 1: Serious eye damage/eye irritation – Category 1

Sensitization - skin 1: Skin sensitisation – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

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

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