

Safety Data Sheet
Clidox-S® Use-Dilution

SDS Revision Date:

05/02/2016



1. Identification

1.1. Product identifier

Product Identity

Clidox-S® Use-Dilution

Alternate Names

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use

High level disinfectant/sterilant

Application Method

See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Company Name

Pharmacal Research Labs., Inc.
562 Captain Neville Dr.
Waterbury, CT 06705, USA

24 hour Emergency Telephone No.:

CHEMTREC (USA)

(800) 424-9300

IN CANADA CALL CANUTEC

(613) 996-6666

Customer Service: Pharmacal Research Labs., Inc.

203-755-4908, (800)-243-5350

2. Hazard(s) identification

2.1. Classification of the substance or mixture

Skin Irrit. 2;H315

Causes skin irritation.

Eye Irrit. 2A;H319

Causes serious eye irritation.

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.



WARNING

H315 Causes skin irritation.

H319 Causes serious eye irritation.

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[Prevention]:

- P260 Do not breathe mist / vapors / spray.
- P264 Wash thoroughly after handling.
- P280 Wear protective gloves / eye protection / face protection.

[Response]:

- P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.
- P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
- P312 Call a Poison Center or doctor/ physician if you feel unwell.
- P363 Wash contaminated clothing before reuse.

[Storage]:

- P404 Store in closed container. In area under 100°F.

[Disposal]:

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

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Chlorine Dioxide CAS Number: 10049-04-4	< 0.04	Eye Irrit. 2;H319 Skin Irrit. 2;H315	[1] [2]

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

4. First aid measures

4.1. Description of first aid measures

- General** In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
- Inhalation** Move to fresh air. Consult a physician if irritation of respiratory passages occur.
- Eyes** Hold eye open and rinse slowly and gently with water for 15 - 20 minutes.

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Skin Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. If irritation persists get medical attention.
Take off contaminated clothing.
Rinse skin immediately with plenty of water for 15 - 20 minutes.

Ingestion Have person rinse mouth with water. If able to swallow, drink water to cause dilution.
Do not give anything by mouth to an unconscious person.
Do not induce vomiting!
If ingestion of a large amount occurs, seek medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Overview No specific symptom data available.
CAUTION: May cause moderate eye irritation. Harmful if swallowed, or absorbed through the skin. Do not get in eyes, on skin, or on clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing before reuse.
KEEP OUT OF REACH OF CHILDREN
See section 2 for further details.

Eyes Causes serious eye irritation.
Skin Causes skin irritation.

5. Fire-fighting measures

5.1. Extinguishing media

Water is recommended since chlorine dioxide is soluble in water and the toxic effects are reduced on dilution.

5.2. Special hazards arising from the substance or mixture

Chlorine dioxide gas has highly toxic characteristics. Use a gas mask as a preventative measure if there is any risk of chlorine dioxide gas in the air.

Do not breathe mist / vapors / spray.

5.3. Advice for fire-fighters

Approach fire from upwind to avoid hazardous vapors & toxic decomposition products. Use full protective clothing and self-contained breathing apparatus.

ERG Guide No. ----

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions

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Do not allow spills to enter drains or waterways.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Steps to be taken in case material is released or spilled:

Do not absorb in combustible materials. Contain spilled material in suitable containers or holding area. Dispose of in conformance with all federal, state, and local regulations.

“Empty” container warnings:

Do not reuse empty container. Triple rinse with water. Dispose of in conformance with federal, state, and local regulations.

7. Handling and storage

7.1. Precautions for safe handling

Keep in well ventilated area. Keep containers cool by spraying with water if exposed to fire.

See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Handle containers carefully to prevent damage and spillage.

Incompatible materials: Chlorine dioxide should be stored separate from organic material and reducing agents. High temperatures will have a negative effect on the quality and function of the product. Increased temperature may cause gas vaporization and may lead to decomposition.

See section 2 for further details. - [Storage]:

7.3. Specific end use(s):

Keep out of reach of children.

8. Exposure controls and personal protection

8.1. Control parameters

CAS No.	Ingredient	Source	Value
10049-04-4	Chlorine Dioxide (Gas)	OSHA	0.1 ppm. 0.3 mg/m ³
		ACGIH	0.1 ppm. 0.28 mg/m ³ TWA; 0.3 ppm. 0.83 mg/m ³ STEL
		NIOSH	0.1 ppm TWA; 0.3 ppm STEL

Carcinogen Data

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CAS No.	Ingredient	Source	Value
10049-04-4	Chlorine Dioxide (Gas)	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

8.2. Exposure controls

- Respiratory** Use NIOSH/MSHA approved respirator, following manufacturer's recommendations when concentrations exceed permissible exposure limits.
- Eyes** Chemical Splash goggles or face shield
- Skin** Chemical resistant clothing such as coveralls/apron and boots should be worn. Compatible chemical resistant gloves. Nitrile gloves (4- to 5-MIL thickness) with a maximum sustained contact time of 30 minutes. Beyond 30 minutes of exposure, Nitrile gloves should be changed to a new pair of similar thickness.
- Engineering Controls** Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
- Other Work Practices** Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

Appearance	Light yellow to Green Liquid
Odor	Pungent
Odor threshold	Not Measured
pH	2.8
Flash Point	Not Measured
Evaporation rate (Ether = 1)	Not Measured
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: Not Measured Upper Explosive Limit: Not Measured
Vapor pressure (Pa)	Not Measured
Vapor Density	Not Measured
Specific Gravity	1.01
Solubility in Water	Complete @1 ATM and 25 C

9.2. Other information

Physical properties are approximate or typical values and should not be used for precise design purposes.

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10. Stability and reactivity

10.1. Reactivity

None under normal conditions.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

Avoid contact with iron, copper and reducing agents.

10.4. Conditions to avoid

High temperatures. Gaseous chlorine dioxide is emitted on heating. High temperatures will have a negative effect on the quality and the function of the product.

UV light sources. UV light causes decomposition.

10.5. Incompatible materials

Avoid contact with iron, copper and reducing agents.

10.6. Hazardous decomposition products

None under normal conditions. At higher concentrations, chlorine dioxide is an oxidizing agent which is stable as long as the solution is stored in cold and dark conditions.

11. Toxicological information

Acute toxicity

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation LC50, mg/L	Inhalation Gas LD50, ppm
Chlorine dioxide - (10049-04-4)	>5000 Rat - Category: 5	No data available	>2.01 Rat Category 4	No data available

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	2	Causes skin irritation.
Serious eye damage/irritation	2	Causes serious irritation.
Respiratory sensitization	---	Not Applicable

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Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

12. Ecological information

12.1. Toxicity

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Chlorine dioxide is toxic to aquatic organisms.

Fish: LC50 /96h/ Pimephales promelas – 0.02 mg/dm³ (Chlorine dioxide)

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Biodegradability

Chlorine dioxide is quickly decomposed forming chlorate, chlorite and chloride.

12.4. Bioaccumulative potential

Chlorine dioxide is quickly converted into the products of its decomposition, There is no evidence to show bioaccumulation in animals.

12.5. Mobility

Chlorine dioxide absorbed into water has low volatility.

12.6. Other adverse effects

No data available.

13. Disposal considerations

13.1. Waste treatment methods

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Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

Not transported in this form.

15. Regulatory information

Regulatory Overview The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA) All components of this material are either listed or exempt from listing on the TSCA Inventory.

WHMIS Classification N/A

US EPA Tier II Hazards

Fire: No
Sudden Release of Pressure: No
Reactive: No
Immediate (Acute): Yes
Delayed (Chronic): No

EPCRA 311/312 Chemicals and RQs:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 302 Extremely Hazardous:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:

Chlorine dioxide CAS# 10049-04-4 (0.04 %)

Clean Air Act (CAA 112(r)) TQ

Chlorine dioxide (gas) CAS# 10049-04-4 1000 lbs

Proposition 65 - Carcinogens (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

New Jersey RTK Substances (>1%) :

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Pennsylvania RTK Substances (>1%) :

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

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16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

Not Applicable

Revision Date: 07/12/2022 Supersedes: 05/02/2016 Reason: Review and Update

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

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The hazardous materials identification system (HMIS) and national fire protection association ratings have been included by Pharmacal research laboratories INC. In order to provide additional health and hazard information. The ratings recommended are based upon criteria supplied by the developers of these rating systems, together with Pharmacal's interpretation of the available data.

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