Safety Data Sheet

Revision Date: 6/30/2014

SDS # SDS-10302-01

PhThaloRED Solution

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:	**Product Code**
PhThaloRED Solution	71-00-02

Hazardous Reagent
PhThaloRED Solution

Hazardous Reagent Product code
Catalog No. listed above

Recommended Use Reagent

Contact Manufacturer KPL, Inc.
910 Clopper Road
Gaithersburg, Maryland 20878
USA

Phone #: 1-301-948-7755
Fax #: 1-301-948-0169
Web: www.kpl.com
Email: kplmsds@seracare.com

Emergency Telephone Numbers:

AUSTRALIA – POISONS INFORMATION CENTER	Telephone: 13 11 26	Hours: 24 hours
CANADIAN TRANSPORT EMERGENCY CENTER	Telephone: (1) 613 996 6666	Hours: 24 hours/day, 7 days/week
UK – THE NATIONAL FOCUS	Telephone: (44) 029 2041 6388	Hours: 09:00-17:00 GMT
USA- NATIONAL RESPONSE CENTER	Telephone: (1) 800 424 8802	Hours: 24 hours/day, 7 days/week

CHEMTREC: CHEMTREC Customer Number:- CCN12505*
For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 CCN12505 or
+1 703-527-3887 (collect calls accepted)

2. HAZARD IDENTIFICATION

Hazard Type Health Hazard: Data for 10 - 25% Hydrochloric Acid: Skin Irrit. 2;H315: 10 % ≤ C < 25 % | Eye Irrit. 2; H319: 10 % ≤ C < 25 % | STOT SE 3; H335: C ≥ 10 % Data for 100% Diethylene Glycol: Harmful if swallowed, Causes damage to kidneys if swallowed, May cause drowsiness or dizziness.

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Classification Acute Tox. 4 (Acute toxicity) | Skin Corr. 1B (Skin corrosion/irritation) | STOT SE 3 (Specific target organ toxicity — single exposure)

Hazard Statement H302 : Harmful if swallowed. | H314: Causes severe skin burns and eye damage | H335: May cause respiratory irritation

Precautionary Statement P260: Do not breathe dust/ fume/ gas/ mist/ vapours/ spray | P261: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray | P264: Wash skin thoroughly after handling. | P270: Do not eat, drink or smoke when using this product. | P271: Use only outdoors or in a well-ventilated area.

Symbols of Danger GHS05
GHS07
Danger

Data for 100% Hazardous Chemical

ROUTES OF EXPOSURE:	The substance can be absorbed into the body by inhalation.
INHALATION RISK:	A harmful concentration of this gas in the air will be reached very quickly on loss of containment.
SHORT-TERM EXPOSURE	Rapid evaporation of the liquid may cause frostbite. The substance is corrosive to the eyes, the skin and the respiratory tract. Inhalation of high concentrations of the gas may cause pneumonitis and lung oedema, resulting in reactive airways dysfunction syndrome (RADS). The effects may be delayed. Medical observation is indicated.
LONG-TERM EXPOSURE:	The substance may have effects on the lungs , resulting in chronic bronchitis. The substance may have effects on the teeth, resulting in erosion.

The product is a Mixture. It May Cause the following symptoms.

EYES: Corrosive. Pain. Blurred vision. Severe deep burns.

SKIN: ON CONTACT WITH LIQUID: FROSTBITE. Corrosive. Serious skin burns. Pain.

INHALATION: Corrosive. Burning sensation. Cough. Laboured breathing. Shortness of breath. Sore throat. Symptoms may be delayed (see Notes).

INGESTION: Causes severe digestive tract burns with abdominal pain, vomiting, and possible death. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract.

ROUTES OF EXPOSURE:	The substance can be absorbed into the body by ingestion.
INHALATION RISK:	A harmful contamination of the air will not or will only very slowly be reached on evaporation of this substance at 20°C; on spraying or dispersing, however, much faster.
SHORT-TERM EXPOSURE	The substance may cause effects on the kidneys , resulting in kidney impairment The substance may cause effects on the central nervous system and liver by ingestion . Exposure by ingestion may result in death.
LONG-TERM EXPOSURE:	Not Available

The product is a Mixture. It May Cause the following symptoms.

INGESTION: Abdominal pain. Nausea. Vomiting. Diarrhoea. Dizziness. Drowsiness. Confusion. Unconsciousness.

Direct contact with product may result in eye irritation.

Absorption through skin may occur. May cause irritation to the skin

May cause irritation to the respiratory tract.

May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CHEMICAL	% Weight	CAS #:
PhThaloRED Solution	2,2' -oxybisethanol diethylene glycol	10%	111-46-6
	Hydrochloric Acid	15.1%	7647-01-0

Classification Acute Tox. 4 (Acute toxicity) | Skin Corr. 1B (Skin corrosion/irritation) | STOT SE 3 (Specific target organ toxicity — single exposure)

4. FIRST AID MEASURES

Data for 100% Hazardous Chemical

Ingestion First Aid:	Rinse mouth. Do NOT induce vomiting. Refer for medical attention.
Inhalation First Aid:	Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.
Skin First Aid:	First rinse with plenty of water, then remove contaminated clothes and rinse again. Refer for medical attention.
Eye First Aid:	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.

Ingestion First Aid:	Give one or two glasses of water to drink. Refer immediately for medical attention. See Notes. 007
Inhalation First Aid:	Fresh air, rest.
Skin First Aid:	Rinse skin with plenty of water or shower.
Eye First Aid:	Rinse with plenty of water (remove contact lenses if easily possible).

5. FIRE FIGHTING MEASURES

Data For 100% Hazardous Chemical

Fire Acute Hazard:	Fire Prevention:	Fire Fighting:
Not combustible.	Not Available	In case of fire in the surroundings: use appropriate extinguishing media.

Explosion Acute Hazard:		
Not Available	Not Available	In case of fire: keep cylinder cool by spraying with water.

CHEMICAL DANGERS: The solution in water is a strong acid, it reacts violently with bases and is corrosive. Reacts violently with oxidants forming toxic gas. Attacks many metals in the presence of water forming flammable/explosive gas.

PHYSICAL DANGERS: The gas is heavier than air.

Fire Acute Hazard:	Fire Prevention:	Fire Fighting:
Combustible.	NO open flames.	Powder, alcohol-resistant foam, water spray, carbon dioxide .

Explosion Acute Hazard:		
Not Available	Not Available	Not Available

CHEMICAL DANGERS: Reacts violently with strong oxidants causing fire and explosion hazard. Attacks some forms of plastic.

PHYSICAL DANGERS: Not Available

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. Should not be released into the environment.
Method of Containment	Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.
Methods of Clean-up	Clean-up with copious amounts of water.
Other Information	Data for 100% Diethylene Glycol: Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance.

Data for 100% Hazardous Chemical

SPILLAGE DISPOSAL	Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Collect leaking liquid in sealable containers. Wash away spilled liquid with plenty of water.
SPILLAGE DISPOSAL	Evacuate danger area! Consult an expert! Ventilation. Remove gas with fine water spray. Personal protection: complete protective clothing including self-contained breathing apparatus.

7. HANDLING AND STORAGE

Handling: Handle in accordance with good industrial hygiene and safety practice.

Storage: Store at room temperature. Data for 100% Diethylene Glycol: Dry. Well closed. Separated from strong oxidants.

Data for 100% Hazardous Chemical

STORAGE	Dry. Well closed. Separated from strong oxidants.
STORAGE	Separated from combustible and reducing substances, strong oxidants, strong bases, metals . Keep in a well-ventilated room. Cool. Dry.

8. EXPOSURE CONTROL

Data for 100% Hazardous Chemical

INHALATION	Ventilation, local exhaust, or breathing protection.
EYES	Safety goggles or eye protection in combination with breathing protection.
SKIN	Cold-insulating gloves. Protective clothing.
•INGESTION	Do not eat, drink, or smoke during work.
•INHALATION	Ventilation.
•EYES	Safety spectacles.
•SKIN	Protective gloves.
•INGESTION	Do not eat, drink, or smoke during work.

Engineering Controls Not Available

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Greenish/Yellow Solution.

Physical State Liquid **pH:** < 2.0

Data for 100% Hazardous Chemical

Boiling point: -85°C	Melting point: -114°C	Density: 1.00045 g/l (gas)	Solubility in water, g/100 ml at 30°C: 67	Relative vapour density (air = 1): 1.3	Octanol/water partition coefficient as log Pow: 0.25
Boiling point: 244 °C	Melting point: -6.5°C	Relative density (water = 1): 1.12 Temperature: 20 °C	Solubility in water: miscible	Vapour pressure, Pa at 20°C: 2.7	pH-VALUE: 6 - 8 Temperature: 20 °C Concentration: 200 g/l
Relative vapour density (air = 1): 3.7	Flash point: 124°C c.c.	Auto-ignition temperature: 229°C	Explosive limits, vol% in air: 1.6-10.8	Octanol/water partition coefficient as log Pow: -1.47	

10. STABILITY AND REACTIVITY

Chemical Stability Stable

Incompatibility Materials to Avoid Metals, strong oxidizing agents

Hazardous Decomposition Products Upon evaporation of water, may emit toxic fumes of Hydrogen chloride

Hazardous Polymerization Will not occur

Data for 100% Hazardous Chemical

CHEMICAL DANGERS:	The solution in water is a strong acid, it reacts violently with bases and is corrosive. Reacts violently with oxidants forming toxic gas. Attacks many metals in the presence of water forming flammable/explosive gas.
PHYSICAL DANGERS:	The gas is heavier than air.
CHEMICAL DANGERS:	Reacts violently with strong oxidants causing fire and explosion hazard. Attacks some forms of plastic.
PHYSICAL DANGERS:	Not Available

11. TOXICOLOGY MEASURES

Acute Toxicity

The toxicological risks are minor due to the low concentration of hazardous ingredients. The following toxicological information is for the hazardous ingredient in pure form.

LD50 Oral	Data for >10 - 25% aqueous Hydrochloric Acid: SPECIES: Rat ENDPOINT: LD50 VALUE: 700 mg/kg bw REFERENCE SOURCE: DOW Deutschland Inc., Werk Stade Stade 5 (110) Monsanto (1976) unpublished report YO-76-0404 of Monsanto [iuclid 2000] Data for Diethylene Glycol: SPECIES: Cat ENDPOINT: LD50 VALUE: 3300 mg/kg bw REFERENCE SOURCE: Occidental Chemical Corporation Niagara Falls, NY 14302-0728 (114) REFERENCE-(1939) Journal of Industrial Hygiene and Toxicology 21:173, as cited in RTECS. [IUCLID 2000]
LD50 Dermal	Data for > 10 - 25 % aqueous Hydrochloric Acid: SPECIES: RESULT: Corrosive REFERENCE SOURCE: IARC. Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man. Geneva: World Health Organization, International Agency for Research on Cancer,1972-PRESENT. (Multivolume work).,p. V54 201(1992) [HSDB] UN CLASS: 8 PG II
LC50 Inhalation	Data for > 10 - 25 % aqueous Hydrochloric Acid: LC50 Crustaceans (48 hours) Minimum: 240 mg/l Maximum: 260 mg/l Median: 250 mg/l Study number: 2 Reference for median: Portmann, J.E., and K.W. Wilson 1971. The Toxicity of 140 Substances to the Brown Shrimp and Other Marine Animals. Shellfish Information Leaflet No.22 (2nd Ed.), Ministry of Agric.Fish.Food, Fish.Lab.Burnham-on-Crouch, Essex, and Fish Exp.Station Conway, North Wales :12 p.

Chronic Toxicity

Carcinogenicity	Not Available
Irritation	Not Available
Corrosivity	Data for >2-10% aqueous Hydrochloric Acid: Corrosive to dermal and ocular tissue
Sensitization	Not Available
Neurological Effects	Not Available
Mutagenic Effects	Not Available
Reproductive Effects	Not Available
Developmental Effects	Not Available
Target Organ Effects	Eyes, Skin and Respiratory tract

Other adverse effects Not Available

12. ECOLOGICAL MEASURES

Ecotoxicity Data for 36% Hydrochloric Acid: LC50 Crustaceans (48 hours) Minimum: 240 mg/l Maximum: 260 mg/l Median: 250 mg/l

Persistence/Degradability Data for 100% 2,2' -oxybisethanol diethylene glycol : Readily Biodegradable

Mobility in Environmental Media Data for 100% 2,2' -oxybisethanol diethylene glycol : Using a structure estimation method based on molecular connectivity indices(1), the Koc of diethylene glycol can be estimated to be 1(SRC). According to a classification scheme(2), this estimated Koc value suggests that diethylene glycol is expected to have very high mobility in soil. [(1) Meylan WM et al; Environ Sci Technol 26: 1560-67 (1992) (2) Swann RL et al; Res Rev 85: 17-28 (1983)] **PEER REVIEWED**

Bioaccumulation/ Accumulation Data for 100% 2,2' -oxybisethanol diethylene glycol : An estimated BCF of 3 was calculated in fish for diethylene glycol(SRC), using an estimated log Kow of -1.5(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC). [(1) Meylan WM, Howard PH; J Pharm Sci 84: 83-92 (1995) (2) Meylan WM et al; Environ Toxicol Chem 18: 664-72 (1999) (3) Franke C et al; Chemosphere 29: 1501-14 (1994)] **PEER REVIEWED**

13. DISPOSAL MEASURES

Waste Disposal Method: Carefully stir residue into a large excess of water. Next, neutralise with soda lye; check the pH level. Place in a collection container for salt solutions. This container should be adjusted for a pH value of 6-8. Collection vessels must be clearly labelled with a systematic description of their contents and with the hazard symbol and the R and S phrases. Store the vessels in a well-ventilated location. Entrust them to the appropriate authorities for disposal.

Contaminated Packaging: Avoid contact with skin and clothing. Place contaminated packaging in a break proof outer vessel and dispose on in compliance with national and local regulations.

US EPA Waste Number: Not Available

14. TRANSPORTATION MEASURES

DOT: Not Available

IATA: Not Available

ADR (road)/ RID (rail): Not Available

IMDG (sea): Not Available

General Transport Regulations Not Available

15. REGULATORY MEASURES

This product is a mixture that may contain one or more hazardous chemicals. The hazardous ingredients listed are only those as required by 29 CFR 1910.1200 (OSHA HCS).

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains no chemical or chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (See 40 CFR 61)

This product contains no chemical or chemicals which are subject to the reporting requirements of the Clean Air Act, Section 112 HAPS

State Regulations

California Proposition 65:

This product contains the following Proposition 65 chemicals: None Listed

State Right to Know Act

Chemical Name	2,2' -oxybisethanol diethylene glycol	Hydrochloric Acid
Massachusetts	Not Listed	Listed
New Jersey	Not Listed	Listed
Pennsylvania	Listed	Listed
New York	Not Listed	Listed
Rhode Island	Listed	Listed

International Inventories

Chemical Name	2,2' -oxybisethanol diethylene glycol	Hydrochloric Acid
TSCA	Listed	Listed
DSL	Listed	Listed
NDSL	Not Listed	Not Listed
EINECS	Listed	Listed
CHINA	Listed	Listed
KECL	Listed	Listed
JAPAN:	Listed	Listed
AICS	Listed	Listed

EU Regulations

Annex I Index#	Data for 100% 2,2'-oxydiethanol: 603-140-00-6 | Data for 100% Hydrochloric Acid: 017-002-00-2
Classification	Acute Tox. 4 (Acute toxicity) | Skin Corr. 1B (Skin corrosion/irritation) | STOT SE 3 (Specific target organ toxicity — single exposure)
Risk Phrases	H302 : Harmful if swallowed. | H314: Causes severe skin burns and eye damage | H335: May cause respiratory irritation
Safety Phrases	P260: Do not breathe dust/ fume/ gas/ mist/ vapours/ spray | P261: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray | P264: Wash skin thoroughly after handling. | P270: Do not eat, drink or smoke when using this product. | P271: Use only outdoors or in a well-ventilated area.
Symbols and Indications of Danger	GHS05 GHS07 Danger
Specific Concentration Limits	2,2' -oxybisethanol diethylene glycol: Not Available, Hydrochloric Acid: Skin Corr. 1B; H314: C ≥ 25 % | Skin Irrit. 2; H315: 10 % ≤ C < 25 % | Eye Irrit. 2; H319: 10 % ≤ C < 25 % | STOT SE 3; H335: C ≥ 10 %
Export and Import	This substance is not listed in the Annex I of Regulation (EC) No 649/2012.
European Priority List	This substance is not listed in a priority list (as foreseen under Council Regulation (EEC) No 793/93 on the evaluation and control of the risks of existing substances.).

16. OTHER INFORMATION

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. KPL shall not be held liable for any damage resulting from handling or from contact with the above product. Users should make their own investigations to determine the suitability of the information for their particular purposes. This material is sold for research purposes and is intended as laboratory reagents only. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals.

Revision Date: 6/30/2014