



"...providing sulfide reagents for treatment of COPR and other metal-bearing wastes..."

Redox^{Sx} 40

Material Safety Data Sheet

Section 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION

- 1.1 Product Name:** Redox^{Sx} 40
Chemical Family: Inorganic salt solution
Synonyms: Calcium Polysulfide / Sodium Polysulfide
Formula: CaS_x & NaS_x
- 1.2 Manufacturer Information:** Redox Solutions, LLC
11550 N. Meridian Street, Suite 180
Carmel, IN 46032
- 1.3 Emergency Contact:** (317) 660-6867

Section 2: COMPOSITION, INFORMATION ON INGREDIENTS

2.1 Chemical Ingredients (% by wt.)

Sodium Polysulfide Solution	012034-39-8	17% - 20%
Calcium Polysulfide Solution	1344-81-6	17% - 20%
Water	7732-18-5 71	60% - 66%

Section 3: HAZARDS IDENTIFICATION

NFPA: **Health - 0** **Flammability - 0** **Reactivity - 2**

May be irritating to eyes and mucous membranes. Avoid inhalation of any fumes which may be given off when used or when bottle is opened. Consider toxic orally or by inhalation. LD/TD no data. PEL/TLV:TWA 1mg(Fe)/m³. No known carcinogenicity.

Section 4: FIRST AID MEASURES

- 4.1 EYES:** Immediately flush with large quantities of water for 15 minutes. Hold eyelids apart during irrigation to insure thorough flushing of the entire area of the eye and lids. Obtain immediate medical attention.
- 4.2 SKIN:** Immediately flush with large quantities of water. Remove contaminated clothing under a safety shower.
- 4.3 INGESTION:** If swallowed, give water or milk and induce vomiting. Call a physician.

Section 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

FLASH POINT: Not flammable **METHOD USED:** NA

5.2 EXTINGUISHING MEDIA: Use extinguishing media appropriate for surrounding fire

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Releases: Confine and absorb small releases on sand, earth or other inert absorbent. Dispose in accordance with all applicable environmental regulations.

Section 7: HANDLING and STORAGE

7.1 Handling: Use only with adequate ventilation. Use protective clothing to prevent contact with skin or eyes.

7.2 Storage: Store in well ventilated areas. Do not store combustibles in the area of storage vessels. Keep away from any sources of heat or flame. Store tote and smaller containers out of direct sunlight at moderate temperatures [$<80^{\circ}\text{F}$ (27°C)]. (See addendum for materials of construction)

Section 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

8.1 RESPIRATORY PROTECTION: None required if adequate ventilation is provided.

8.2 SKIN PROTECTION: Proper Gloves

8.3 EYE PROTECTION: Safety glasses with side-shield.

Section 9: PHYSICAL and CHEMICAL PROPERTIES

9.1 APPEARANCE: Deep Reddish liquid

9.2 ODOR: Strong odor of rotten eggs

9.3 BOILING POINT: Not determined

9.4 VAPOR PRESSURE: Not determined (Believed to be minimal)

9.5 VAPOR DENSITY: Not determined

9.6 SOLUBILITY IN WATER: Soluble

9.7 SPECIFIC GRAVITY: 1.30

9.8 FREEZING POINT: Not determined

9.9 pH: 11.0 – 12.5

9.10 VOLATILE: Not applicable

Section 10: STABILITY and REACTIVITY

10.1 STABILITY: This is a stable material

10.2 HAZARDOUS POLYMERIZATION: Will not occur.

10.3 INCOMPATIBILITY: Acids will cause the release of highly toxic Hydrogen Sulfide. Reacts violently with diazonium salts. Sodium Hydrosulfide solution is not compatible with copper, zinc, aluminum or their **alloys** (i.e. bronze, brass, galvanized metals, etc.). Corrosive to steel above 150° F (65.5° C). These materials of construction should not be used in handling systems or storage containers for this product.

Section 11: TOXICOLOGICAL INFORMATION

Not generally regarded as a health hazard.

Section 12: DISPOSAL CONSIDERATIONS

If released to the environment for other than its intended purpose, this product should be checked to see it meets the criteria of a reactive sulfide D003, Reactive waste.

Section 14: TRANSPORT INFORMATION

14.1 DOT Shipping Name: Non-hazardous, Non-Regulated Liquid (Sodium/Calcium polysulfide)

14.2 DOT Hazard Class: NA

14.3 UN/NA Number: NA

14.4 Packing Group: NA

14.5 DOT Placard: NA

14.6 DOT Label(s): NA

14.7 IMO Shipping Name: Not Determined

14.8 RQ (Reportable Quantity): NA

14.9 RR STCC Number: Not Determined

Section 13: DISCLOSURE

While the information and recommendations contained herein are based on data that is believed to be correct, Redox Solutions, LLC makes no guarantee or warranty of any kind, expressed or implied with respect to the information contained herein. We reserve the right to revise material safety data sheets periodically as new information becomes available. (MSDS Revised: 9/26/11)