# MATERIAL SAFETY DATA SHEET

KEMTEC
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MSDS No. SS 845
Effective Date March 14, 1997

## SECTION I NAME

24 HOUR EMERGENCY ASSISTANCE
CHEMTREC 800-424-9300
Day 716-226-6177

| | |
|---|---|
| Product | SODIUM SULFIDE, NONAHYDRATE |
| Chemical Synonyms | Sodium Mono Sulfide, Nonahydrate |
| Formula | $Na_2S{\cdot}9H_2O$ |
| Unit Size | up to 2.5 Kg. |
| C.A.S. No. | 1313-84-4 |

| | |
|---|---|
| Health | 2 |
| Fire | 2 |
| Reactivity | 1 |

NFPA HAZARD RATING — HMIS *
LEAST SLIGHT MODERATE HIGH EXTREME
0 1 2 3 4

## SECTION II INGREDIENTS OF MIXTURES

| Principal Component(s) | % | TLV Units |
|---|---|---|
| Sodium Sulfide, Nonahydrate | 98.0-103.0% | None established. |
| | | |
| WARNING! CORROSIVE! HARMFUL IF INHALED OR SWALLOWED. | | |
| CAUSES BURNS TO SKIN, EYES AND MUCOUS MEMBRANES. | | |

## SECTION III PHYSICAL DATA

| | | | |
|---|---|---|---|
| Melting Point (°F) | 50°C (122°F) | Specific Gravity ($H_2O$ = 1) | 1.427 at 20°C |
| Boiling Point (°F) | 920°C (1688°F) decomposes. | Percent Volatile by Volume (%) | N/A |
| Vapor Pressure (mm Hg) | N/A | Evaporation Rate ( =1) | N/A |
| Vapor Density (Air=1) | Data not listed. | | |
| Solubility in Water | 18 grams in 100 mL. water. | | |
| Appearance & Odor | Colorless to slightly yellow, then to brownish black, deliquescent crystals, flakes; hydrogen sulfide odor. | | |

## SECTION IV FIRE AND EXPLOSION HAZARD DATA

| | | | | |
|---|---|---|---|---|
| Flash Point (Method Used) | Non-flammable. | Flammable Limits in Air % by Volume NA | Lower | Upper |
| Extinguisher Media | Use any media suitable for extinguishing supporting fire. | | | |

**SPECIAL FIREFIGHTING PROCEDURES**

If involved in fire situation, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective clothing.

(1993 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.6, GUIDE PAGE NO. 60)

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

Sodium Sulfide Nonahydrate is a corrosive and not a flammable material. Under fire conditions, Sodium Sulfide will become anhydrous yielding a flammable solid. In fire conditions, can yield very toxic gas of hydrogen sulfide. The anhydrous material is unstable. May explode upon percussion or rapid heating.

D.O.T. SODIUM SULFIDE, HYDRATED, 8, UN 1849, PG II

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20

## SECTION V HEALTH HAZARD DATA

**Threshold Limited Value**
None established (ACGIH 1992-93).

**Effects of Overexposure**
INGESTION: Can be rapidly fatal if small amounts are ingested - 1 teaspoon or less. Extremely destructive to the tissue of the upper respiratory tract and mucous membranes, eyes and skin. INHALATION: Inhalation of hydrogen sulfide gas can be fatal. Causes shortness of breath, nausea, vomiting, dizziness, unconsciousness and death from respiratory paralysis.

**Emergency and First Aid Procedures**
INGESTION: If swallowed, do NOT induce vomiting. If conscious, give one or two glasses of water to drink and get immediate medical attention. Never give anything by mouth to an unconscious person. SKIN: Flush with mild soap and water. EYES: Flush with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention. INHALATION: Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get immediate medical attention.

## SECTION VI REACTIVITY DATA

| Stability | | | Conditions to Avoid |
|---|---|---|---|
| | Unstable | | Excessive heat and temperature above 300°C. |
| | Stable | X | |

**Incompatibility (Materials to Avoid)** Strong acids, strong oxidizers. Contact with almost any acid will produce hydrogen sulfide gas, which is flammable, explosive and toxic.

**Hazardous Decomposition Products** Thermal decomposition yields oxides of sulfur ($SO_x$) and hydrogen sulfide gas, a poisonous gas.

| Hazardous Polymerization | | Conditions to Avoid |
|---|---|---|
| May Occur | Will Not Occur | Not applicable. |
| | X | |

## SECTION VII SPILL OR LEAK PROCEDURES

**Steps to be taken in case material is released or spilled**
Ventilate area. Avoid raising dust. Spilled material is usually recoverable. Sweep or scoop up and remove. Ventilate area, avoid raising dust, flush spill area with water when pick-up is complete.

**Waste Disposal Method** Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.

Dispose of in accordance with federal, state and local regulations.

## SECTION VIII SPECIAL PROTECTION INFORMATION

**Respiration Protection (Specify Type)** Work in ventilation hood or wear a NIOSH/MSHA-approved air respirator.

| Ventilation | | | | |
|---|---|---|---|---|
| | Local Exhaust | Recommended. | Special | No. |
| | Mechanical (General) | Recommended. | Other | Adequate to maintain below exposure limit. |

| | | | |
|---|---|---|---|
| **Protective Gloves** | Rubber. | **Eye Protection** | Chemical safety glasses. |
| Other Protective Equipment | Lab coat, dust mask, proper ventilation, safety showers, eye wash station, proper gloves, goggles. | | |

## SECTION IX SPECIAL PRECAUTIONS

**Precautions to be Taken in Handling & Storing**
Keep container tightly closed when not in use.
Storage: Light sensitive, deliquescent. Keep container tightly closed when not in use. Wash thoroughly after handling.

**Other Precautions** Read label on container before using. Do not wear contact lenses when working with chemicals.
Avoid contact with skin, eyes and mucous membranes. Use with adequate ventilation. Do not inhale or ingest. Do not store in zinc, aluminum or copper containers. Remove and wash contaminated clothing.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

| Revision | No. 4 | Date | 3/14/97 | Approved | Michael Raszeja | Chemical Safety Coordinator | MR |
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