



# N-1386 Technical Grade

DATE: 08/18/2006

CAS NO: 3064-70-8

SUPERSEDES: 01/02

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** N-1386 Technical Grade  
**SYNONYMS:** Bis (trichloromethyl) sulfone

**MOLECULAR FORMULA:**  $Cl_3CSO_2CCl_3$   
**MOLECULAR WEIGHT:** 301

**VERICHEM**, 3499 Grand Avenue, Pittsburgh, PA 15225 (412-331-7299, 8:30 am to 5:00 pm)  
**EMERGENCY PHONE:** For any emergency involving spill, leak, fire, exposure, or accident call CHEMTREC: 1-800-424-9300.  
Outside the USA and Canada call: 703-527-3887.

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

### REGULATED COMPONENTS

COMPONENT	CAS NUMBER	PERCENT	WORKER EXPOSURE	REFERENCE
Bis (trichloromethyl) sulfone	3064-70-8	98		

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**APPEARANCE AND ODOR:** White to off-white crystal with pungent, aromatic odor.

**EFFECTS OF OVEREXPOSURE:** No exposure limits have been established.

## 4. FIRST AID MEASURES (IN CASE OF CONTACT):

**Have the product container or label with you when calling a poison control center or doctor, or going for treatment.**

**If Swallowed:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

**If in Eyes:** Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 15 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

**If Inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

**If on Skin or Clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

5. **FIRE FIGHTING MEASURES**  
**FLAMMABLE PROPERTIES**

**FIRE POINT:** (Cleveland Open Cup)

**FLASH POINT:** (Seta Flash)

**DECOMPOSITION TEMPERATURE:** Greater than 284<sup>0</sup>F/140<sup>0</sup>C

**FIRE HAZARDS:** Not defined as flammable or combustible. However, the product will support combustion and decompose under fire conditions to give off toxic materials such as hydrogen chloride, carbon monoxide, phosgene and sulfur dioxide. A thermal explosion may occur if containers are exposed to flame or elevated temperature. The product is not sensitive to static discharge. **FIRE FIGHTING TECHNIQUE:** Vapors and products of combustion are irritating to the respiratory tract and may cause breathing difficulty and pulmonary edema. Symptoms may be delayed several hours or longer depending upon the extent of exposure. As in any fire, prevent human exposure to fire, smoke, fumes, or products of combustion. Evacuate nonessential personnel from the fire area. Fire fighters should wear full-face, self-contained breathing apparatus and impervious protective clothing. Use standard firefighting techniques to extinguish fires involving this material. Use water spray, dry chemicals or carbon dioxide. Keep fire exposed containers cool with a water spray to prevent rupture due to excessive heat. High-pressure water hose may spread product from broken containers increasing contamination or fire hazard. Contaminated buildings, areas, and equipment must not be used until they are properly decontaminated. If fire cannot be controlled and containers are heated, **EVACUATE THE AREA!**

6. **ACCIDENTAL RELEASE MEASURES**

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED SPILL HANDLING:**

Make sure all personnel involved in the spill cleanup follow good industrial hygiene practices (refer to SECTION 7: Industrial Hygiene). Any person entering either an area of a significant spill or of unknown concentration of a vapor or aerosol should use a NIOSH-approved, positive-pressure self-contained breathing apparatus or a positive-pressure, air-supplied respirator with escape pack. Small spills can be handled routinely. Use adequate ventilation and/or wear a NIOSH approved, organic vapor respirator with dust, mist and fume filters to prevent inhalation exposure. Wear protective clothing to prevent skin and eye contact. Use the following procedures: Soak up pooled liquid with a suitable absorbent such as clay, sawdust, kitty litter or fuller's earth. Sweep up the absorbed material, being careful not to create dust, and place into an appropriate chemical waste container for disposal (**refer to Section 13 Disposal Consideration**). Generously cover contaminated area with a slurry of common, powdered household laundry detergent and water. Using a stiff brush, work the slurry into cracks and crevices. Allow to stand for 2-3 minutes, then flush with water. Repeat if necessary. Do not contaminate water sources by disposal of wastes. Large spills must be handled according to a predetermined plan.

7. **HANDLING AND STORAGE**

**STORAGE GUIDELINE (S):** Containers should be stored in a cool, dry, well ventilated area away from flammable materials and sources of heat or flame. Store away from foodstuff or animal feed. Exercise due caution to prevent damage to or leakage from the container. Avoid prolonged storage at temperatures above 158°F (70°C). Containers should not be opened until ready for use. It is recommended that the product not be used after 12 months from the date of manufacture. **INDUSTRIAL HYGIENE:** The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because use conditions will vary depending upon customers' applications, specific safe handling procedures should be developed by a person knowledgeable of the intended use conditions and equipment. During the development of safe handling procedures, consideration should be given to the need for cleaning of equipment and piping systems to render them nonhazardous before maintenance and repair activities are preformed. Waste resulting from these procedures should be handled in accordance with **Section 13: Disposal Consideration** **VENTILATION ENGINEERING CONTROLS:** In those cases where engineering controls are indicated by the use conditions, the following traditional exposure control techniques may be used to effectively minimize employee exposure: local exhaust ventilation, enclosed system design, process isolation, and remote control wet processing methods, or continuous monitoring devices in combination with appropriate use of personal protective equipment. **INGESTION:** All food must be kept in a separate area away from the storage/use location. Eating, drinking, smoking, and carrying of tobacco products must be prevented in areas where there is a potential for exposure to this

material. Before eating, drinking or smoking, hands and face must be thoroughly washed. **SKIN PROTECTION:** Skin contact with dust or its aerosol must be prevented through the use of impervious clothing, gloves and footwear selected with regard for use condition exposure potential. Safety showers with quick opening valves which stay open should be readily available in all areas where the material is handled or stored. Water should be supplied through insulated and heat-traced lines to prevent freeze ups in cold weather. **EYE PROTECTION:** Eye contact with dust or aerosol must be prevented through the use of chemical safety glasses, goggles or a face shield selected with regard for use condition exposure potential. Eye wash fountains or other means of washing the eyes with a gentle flow of tap water should be readily available in all areas where this material is handled or stored. Water should be supplied through insulated and heat traced lines to prevent freeze ups in cold weather.

8. **PERSONAL PROTECTION**

**EYE PROTECTION REQUIREMENTS:** Chemical splash goggles and face shields.

**SKIN PROTECTION REQUIREMENTS:** Chemical resistant gloves and protective clothing.

**VENTILATION REQUIREMENTS:** Use local exhaust ventilation where dust or vapor may be generated.

**RESPIRATOR REQUIREMENTS:** For irritating vapors, use a NIOSH approved respirator in accordance with OSHA regulations.

9. **PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE:** Off-white powder

**ODOR:** ..... Pungent, aromatic odor.

**BOILING POINT:** .....

**MELTING POINT:** ..... 97°-100°F (36° - 38°)

**pH:**..... N/A

10. **STABILITY AND REACTIVITY**

**STABILITY (CONDITIONS TO AVOID):**

Stable at ambient temperature and pressure. Exothermic decomposition has been detected at 212°F (100°C) and above, which is above the melting point of the material. At 212°F (100°) the half-life is 14 days. The primary decomposition products are hexachloroethane, sulfur dioxide, chlorine, and perchloroethylene. If the heat generated by the decomposition reaction cannot be properly dispersed, the material will self-heat and eventually reach thermal runaway conditions above 302°F (150°C). If the material is confined, a thermal explosion may occur due to the large quantities of heat and gas generated simultaneously. **INCOMPATIBLE MATERIALS:** This material in its dry form is not corrosive to materials commonly used in the construction of shipping and handling equipment. When dissolved in water, it becomes corrosive to steel and aluminum; austenitic stainless steels are recommended for aqueous solutions. The common plastics such as polyvinyl chloride, polyethylene, polypropylene and polyesters are satisfactory for use with this material, as are carbon steel containers lined with phenolic or epoxy coatings.

11. **TOXICOLOGICAL INFORMATION**

**ACUTE EFFECTS**

**EYE:** Corrosive to rabbit eyes. Slight to moderate corneal opacity and Moderate to marked redness and chemosis of the conjunctivae were observed. No remission was in evidence seven days following treatment. **SKIN CONTACT:** The acute dermal LD50 is greater than 5000 mg/kg in rabbits. A single dermal application of 5000 mg/kg produced decreased physical activity and 33 percent mortality. Corrosive to rabbits skin following a 4 or 24 hour exposure. Rabbits displayed moderate to severe erythema and slight to moderate edema. Thirty three percent of the rabbits exhibited eschar formation. N-1386® Biocide does not produce dermal sensitization when tested on guinea pigs. **INGESTION:** The acute oral LD50 is 668 mg/kg in female rats, 730 mg/kg in male rats and 693 mg/kg for male and female rats combined. Clinical signs of toxicity included diarrhea, hypoactivity, staggered gait, red-stained face, yellow stained urogenital region, aggressive behavior, gasping, lacrimation, excessive salivation and death. The product is a potent reversible inhibitor of rat brain acetylcholinesterase and rat plasma cholinesterase when tested in vitro but a single oral dose off 500 mg/kg to rats produced no measurable cholinesterase inhibition. Subcutaneous administration of atropine or scopolamine reduced the incidence of certain adverse signs but failed to alter the oral LD50 or time of death. The product can produce cholinesterase

inhibition but this mechanism is not responsible for lethality in rats. **INHALATION:** The acute inhalation LC50 is greater than 4 mg/L (nominal concentration). A single 4-hour inhalation exposure of 4 mg/L (nominal concentration) to the sublimate or vapor produced eye squint, salivation, lacrimation, and dyspnea. Forty percent mortality occurred in the male rats, and no mortality occurred in female rats.

**12. ECOLOGICAL INFORMATION**

**FISH AND WILDLIFE**

**AQUATIC:** This material is toxic to fish. Do not contaminate water sources by cleaning equipment or disposing of wastes. Highly toxic to rainbow trout fry, sheepshead minnows, bluegill sunfish, daphnia, and larvae of quahog clam and extremely toxic to mysid shrimp.

**13. DISPOSAL CONSIDERATION**

**ACTION TO TAKE IN THE EVENT OF A SPILL:** Make sure all personnel involved in the spill cleanup follow good industrial hygiene practices.

Any person entering either an area of a significant spill or of unknown concentration of dust should use a NIOSH-approved, positive-pressure, self-contained breathing apparatus or a NIOSH-approved, positive-pressure, air-supplied respirator with escape pack.

Small spills can be handled routinely. Use adequate ventilation and/or wear a NIOSH-approved dust, mist and fume respirator to prevent inhalation exposure. Wear protective clothing to prevent skin and eye contact. Use the following procedures: Sweep up spilled material being careful not to create dust. Place sweepings in a chemical waste container for disposal. Generously cover contaminated area with a slurry of common, powdered household laundry detergent and water. Using a stiff brush, work the slurry into cracks and crevices. Allow to stand for 2-3 minutes then flush with water. Repeat if necessary. Do not allow contaminated water to enter waterways. Large spills should be handled according to a predetermined plan.

**DISPOSAL METHOD:** Material that cannot be used or chemically reprocessed should be disposed of at an approved facility in accordance with any applicable regulations. NOTE: State and local regulation may be more stringent than federal.

**14. TRANSPORT INFORMATION**

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

	DOT Shipping Information	IMO Shipping Information	ICAO/IATA	TRANSPORT CANADA
Shipping Name	Corrosive Solid, Acidic Organic, N.O.S., contains (bis(trichloromethyl) sulfone		Corrosive Solid, Acidic Organic, N.O.S., contains (bis(trichloromethyl) sulfone	Corrosive Solid, Acidic Organic, N.O.S., contains (bis(trichloromethyl)sulfone
Hazard Class	8		8	8
Packing Group	III		III	III
Subsidiary Class				
UN/ID Number	3261		3261	3261
Transport Label Required	Corrosive		Corrosive	Corrosive
Packing Instructions Passenger Cargo			822 823	822 823
Max. Net Quantity Passenger Cargo			25kg 100 kg	25kg 100 kg
D.O.T. Hazardous Substances	Corrosive		Corrosive	Corrosive
IMDG Page				

**15. REGULATORY INFORMATION**

**INVENTORY INFORMATION**

US TSCA:	CANADA DSL:
EEC EINECS:	COMPONENT:
CAS. NUMBER: 3064-70-8	PERCENT: 99
TPQ (Pounds):	RQ (Pounds):
RCRA:	RSCA 12B:
<b>PRODUCT CLASSIFICATION UNDER TILE III SECTION 313 OF SARA</b>	
ACUTE: (Y)	CHRONIC: (Y)
FIRE: (N)	REACTIVE: (N)
PRESSURE: (N)	

**16. OTHER INFORMATION**

**NFPA HAZARD RATING (NATIONAL FIRE PROTECTION ASSOCIATION)**

FIRE:..... 1  
HEALTH:..... 3  
REACTIVITY:..... 0

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