



## MATERIAL SAFETY DATA SHEET

**HMIS Hazard Rating:**    Health = 3                      Fire = 1                      Reactivity = 0

0= Insignificant    1 = Slight    2 = Moderate    3 = High    4 = Extreme

### Section 1 General Information

**Product Name:**                      S-780  
**Product Description:**              KCl Substitute

**Manufacturer:**                      Benchmark Research & Technology, Inc.

**Address:**                              4113 West Industrial  
    Midland, Texas 79703

**For information on health hazards call:**                      (432) 697-8171  
**For product sales information call:**                              (432) 697-8171  
**24 Hour Emergency Information call:**                              (800) 349-8171  
**Information effective date:**                                      February 2004  
**Replaces:**    New MSDS  
**Preparer:**    D. Acker

### Section 2 Composition - Information on Ingredients

Hazardous components	CAS Number	%/wt	Limits
Tetramethylammonium chloride	75-57-0	45-55	Not Established
Water	7732-18-5	45-55	

### Section 3 Health Effects Information

**Health Hazards:**

Caution: may be hazardous if inhaled, ingested, or absorbed through the skin. Direct contact with eyes may result in severe irritation or burns. Prolonged skin contact may result in irritation with redness and blistering. Inhalation

of vapors may irritate eyes and nose and cause dizziness, headache, and drowsiness. Ingestion may result in irritation of the mouth, throat, and stomach, and may be fatal.

AVOID EYE OR SKIN CONTACT. DO NOT INGEST OR INHALE VAPORS.

LD50 = 220 mg/kg (for male rats)

**Carcinogenicity:**

Not listed as a carcinogen - IARC, NTP or OSHA

### Section 4 First Aid Procedures

**Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes using an eyewash fountain, if available. Lift upper and lower lids and rinse well under them. Get medical attention, preferably an ophthalmologist if irritation occurs.

**Skin:** Flush all affected areas with plenty of water for several minutes. Remove and wash any contaminated clothing and shoes. Get medical attention if skin irritation occurs.

**Ingestion:** Give water to drink and induce vomiting. Contact emergency physician for further instructions.

**Inhalation:** Remove victim to fresh air. If not breathing administer cardiopulmonary resuscitation or artificial respiration. If breathing is difficult or irritation develops, administer oxygen. Get medical attention.

### Section 5 Fire and Explosion Information

<b>Flash Point, F &amp; Method</b>	<b>Flammable Limits:</b>	<b>LEL, % NA</b>	<b>UEL, % NA</b>
> 200      PMCC	Not applicable		

**Fire Hazards:** This material may burn, but it does not readily ignite.

**Extinguishing Media:** Dry chemical, CO<sub>2</sub>, water spray or foam. Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after the fire is out. Stay away from ends of containers.

### Section 6 Accidental Release Measures

Shut off ignition sources. No flares, smoking or flames in hazard area. Stop leak if you can do it without risk. Water spray may reduce vapor; but it may not prevent ignition in closed areas. Take up spill with sand or other noncombustible absorbent material and place in containers for later disposal. ALWAYS WEAR PROPER PERSONAL PROTECTIVE EQUIPMENT WHEN ADDRESSING SPILL OR LEAK.

### Section 7 Handling and Storage

**Handling Precautions:** Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of the materials from eyes, skin and clothing. Wash thoroughly after handling product.

Storage:  
Should be stored at ambient temperature

## Section 8 Personal Protection

**Respiratory Protection:** Not generally required unless needed to prevent respiratory irritation. If concentrations exist at levels greater than the permissible exposure level, use a NIOSH approved dust respirator as a minimum. Follow guidelines contained in 29CFR § 1910.134, OSHA's respiratory protection standard.

**Ventilation:** Provide adequate ventilation. Use local exhaust as needed to maintain airborne exposure below control limits.

**Personal Protective Equipment:** Rubber or neoprene gloves, safety glasses or goggles and chemical apron.

**Work Hygiene Practices:** Coveralls, Splash Aprons, Eye Wash, and Safety Shower. After handling this product, wash hands before eating, drinking or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown in Section V. Launder contaminated clothing before reuse.

## Section 9 Physical and Chemical Properties

**Boiling Point (°F):** ND

**Vapor Pressure (mm Hg \* 20°):** ND

**Vapor Density (Air = 1):** ND

**Solubility in Water:** Soluble

**Specific Gravity (H<sub>2</sub>O=1):** 1.02 g/cc

**pH of solution:** 5-10

**Appearance and Odor:** colorless to light yellow liquid, slight amine odor

## Section 10 Stability and Reactivity

**Stability:** Stable

**Conditions to Avoid:** NA.

**Incompatibility (materials to avoid):** Strong Oxidizers.

**Hazardous Decomposition Products:** Oxides of carbon, nitrogen and chlorine.

**Hazardous Polymerization:** Will not occur

## Section 11 Toxicological Information

No data available indicating any carcinogenic activity.

## Section 12 Ecological Information

None known

## Section 13 Disposal Considerations

Would not be considered as a RCRA waste if disposed of in the form received. Incinerate or dispose according to all federal, state and local regulations. Do not discharge directly to surface waters.

## Section 14 Transportation Information

**Hazard Classification:** 6.1

**DOT ER Guide No. :** 153

**Labels Required:** Keep Away From Food

**UN/NA No.:** UN 2810

**Proper Shipping Name/Description:**

TOXIC LIQUID, ORGANIC, N.O.S.  
(CONTAINS TETRAMETHYLAMMONIUM CHLORIDE)  
6.1, UN 2810, PG III

## Section 15 Regulatory Information

TSCA

Tetramethylammonium chloride is listed on the TSCA Chemical Inventory

CERCLA

Not listed

SARA TITLE III

Not listed

Other

European EINECS Number: 200-880-8

## Section 16 DISCLAIMER

This Material Safety Data Sheet (MSDS) was prepared in accordance with the provisions and requirements of 29 CFR § 1910.1200 (g) and discloses the physical and health hazards of all hazardous chemicals contained in the Product described in this MSDS, but unless otherwise noted, does NOT describe or disclose ALL of the chemicals/components in the Product, some of which may be Trade Secrets. The information included in this MSDS is based on data developed or compiled by Benchmark Energy Products, L.P. ("Benchmark") from open literature, independent laboratory studies, and other available scientific evidence and is believed to be accurate and complete, but Benchmark makes no warranty with respect thereto. **Neither does Benchmark make any**

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Footnote

ACGIH = American Conference of Governmental Industrial Hygienists"	NIOSH = National Institute for Occupational Safety and Health Hygienists
CAS # = Chemical Abstracts Service Register number	NTP = National Toxicology Program
CL = Ceiling Limit	OSHA, TWA = Occupational Safety and Health Administration,
IARC = International Agency for Research on Cancer	Time Weighted Average
Closed Cup Flash Point Determination.	PMCC = Pensky - Martens
NA = Not Applicable	ASTM D93-19 34
determination	STEL = Short Term Exposure Limit
ND = Not Determined	TCC = Tagliabue Closed Cup flash point
NFPA = National Fire Protection Association	TLV = Threshold Limit Value
	TWA = Time Weighted Average, 8 hours