Material Safety Data Sheet

Baker Petrolite

Section 1. Chemical Product and Company Identification

Product Name	**HSW2001 H2S SCAVENGER**	**Code**	HSW2001
Supplier	Baker Petrolite A Division of Baker Hughes Canada, Inc. 5050 47th Street S.E. Calgary, Alberta, T2B 3S1, Canada For Product Information: 403-537-3850 or 281-276-5400 (8:00 a.m. - 5:00 p.m. cst, Monday - Friday)	**Version**	1.0
Material Uses	Hydrogen sulfide scavenger.	**Effective Date**	**1/22/2003**
24 Hour Emergency Numbers	CANUTEC 613-996-6666 (Canada 24 hours) Baker Petrolite 800-231-3606 (North America 24 hour) CHEMTREC 800-424-9300 (U.S. 24 hour)	**Print Date**	1/22/2003

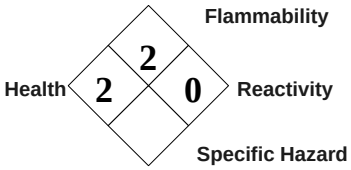
WHMIS (Pictograms)

WHMIS (Classification)

B-3, D-1A, D-2A, D-2B

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the Material Safety Data Sheet contains all information required by the CPR.

National Fire Protection Association (U.S.A.)



Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	Exposure Limits
1) Alkanolamine/aldehyde condensate	4719-04-4	30-60	Not available.
2) Formaldehyde	50-00-0	5-10	CEIL: 0.37 (mg/m^3) from ACGIH (TLV) CEIL: 0.3 (ppm) from ACGIH (TLV) TWA: 0.75 STEL: 2 (ppm) from OSHA (PEL)
3) Methanol	67-56-1	10-30	TWA: 262 STEL: 328 (mg/m^3) from ACGIH (TLV) SKIN TWA: 200 STEL: 250 (ppm) from ACGIH (TLV) SKIN TWA: 200 STEL: 250 (ppm) from OSHA (PEL) SKIN TWA: 260 STEL: 325 (mg/m^3) from OSHA (PEL) SKIN

Please consult with local authorities for acceptable provincial exposure limits since values can vary from jurisdiction to jurisdiction.

Section 3. Hazards Identification

Physical State and Appearance	State: Clear. Liquid., Color: Yellow., Odor: Slight Mild.
Hazard Summary	WARNING. May cause chronic effects. Combustible liquid. At elevated temperatures, vapors can form an ignitable or explosive mixture with air. Can form explosive mixtures at temperatures at or above the flash point. Vapors can flow along surfaces to distant ignition sources and flash back. Static discharges can cause ignition or explosion when container is not bonded. May be irritating to eyes, skin and respiratory tract. Contains a component that may cause cancer. May be toxic by skin absorption. May cause skin sensitization (allergic reaction). May cause central nervous system (CNS) effects if inhaled.

Continued on Next Page

Routes of Exposure	Skin (Permeator), Skin (Contact), Eyes, Inhalation.
Potential Acute Health Effects	
Eyes	May be severely irritating to the eyes. Prolonged contact may cause burns.
Skin	May be severely irritating to the skin. May cause burns on prolonged contact. Skin sensitizer. May cause allergic skin reactions with repeated exposure. May be toxic if absorbed through the skin.
Inhalation	May cause central nervous system (CNS) effects if inhaled. Not considered a likely route of exposure, however, may be irritating if inhaled.
Ingestion	Not considered a likely route of exposure, however, may be corrosive if swallowed.
Medical Conditions aggravated by Exposure	Exposure to this product may aggravate medical conditions involving the following: nervous system, gastrointestinal tract, respiratory tract, skin/epithelium, eyes, nose/sinuses.
See Toxicological Information (section 11)	
Additional Hazard Identification Remarks	Not available.

Section 4. First Aid Measures

Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if irritation occurs.
Skin Contact	Remove contaminated clothing and shoes immediately. Wash affected area with soap and mild detergent and large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.
Inhalation	Remove to fresh air. Oxygen may be administered if breathing is difficult. If not breathing, administer artificial respiration and seek medical attention. Get medical attention if symptoms appear.
Ingestion	Get medical attention immediately. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Wash out mouth with water if person is conscious. Never induce vomiting or give anything by mouth to a victim who is unconscious or having convulsions.
Notes to Physician	Not available.
Additional First Aid Remarks	Not available.

Section 5. Fire Fighting Measures

Flammability of the Product	Combustible liquid. At elevated temperatures, vapors can form an ignitable or explosive mixture with air. Can form explosive mixtures at temperatures at or above the flash point. Vapors can flow along surfaces to distant ignition sources and flash back. Static discharges can cause ignition or explosion when container is not bonded.
Autoignition temperature	Not available.
Flash Points	CLOSED CUP: 41°C (106°F). (PMCC)
Flammable Limits	L.E.L. Not available. U.E.L. Not available.
Products of Combustion	These products are carbon oxides (CO, CO2) nitrogen oxides (NO, NO2...).
Fire Hazards in Presence of Various Substances	Open Flames/Sparks/Static. Heat.
Fire Fighting Media and Instructions	In case of fire, use foam, dry chemicals, or CO2 fire extinguishers. Evacuate area and fight fire from a safe distance. Water spray may be used to keep fire-exposed containers cool. Keep water run off out of sewers and public water ways. Note that flammable vapors may form an ignitable mixture with air. Vapors may travel considerable distances and flash back if ignited.
Protective Clothing (Fire)	Do not enter fire area without proper personal protective equipment, including NIOSH approved self-contained breathing apparatus.
Special Remarks on Fire Hazards	Not available.

Continued on Next Page

Section 6. Accidental Release Measures

Spill	Put on appropriate personal protective equipment. Keep personnel removed and upwind of spill. Shut off all ignition sources; no flares, smoking, or flames in hazard area. Approach release from upwind. Shut off leak if it can be done safely. Contain spilled material. Keep out of waterways. Dike large spills and use a non-sparking or explosion proof means to transfer material to an appropriate container for disposal. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container. Note that flammable vapors may form an ignitable mixture with air. Vapors may travel considerable distances from spill and flash back, if ignited. Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Additional Accidental Release Measures Remarks	Not available.

Section 7. Handling and Storage

Handling and Storage	Put on appropriate personal protective equipment. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors or spray mists. Use only with adequate ventilation. Store in a dry, cool and well ventilated area. Keep away from heat, sparks and flame. Keep away from incompatibles. Keep container tightly closed and dry. To avoid fire or explosion, ground container equipment and personnel before handling product.
Additional Handling and Storage Remarks	Not available.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors or particles below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection

Personal Protective Equipment recommendations are based on anticipated known manufacturing and use conditions. These conditions are expected to result in only incidental exposure. A thorough review of the job tasks and conditions by a safety professional is recommended to determine the level of personal protective equipment appropriate for these job tasks and conditions.

Eyes	Chemical safety goggles.
Body	Wear long sleeves to prevent repeated or prolonged skin contact.
Respiratory	Respirator use is not expected to be necessary under normal conditions of use. In poorly ventilated areas, emergency situations or if exposure levels are exceeded, use NIOSH approved full face respirator.
Hands	Chemical resistant gloves.
Feet	Chemical resistant boots or overshoes.
Other information	4H gloves. Nitrile or neoprene gloves.

Protective Clothing (Pictograms)

Additional Exposure Control Remarks	Not available.

Continued on Next Page

Section 9. Typical Physical and Chemical Properties

Physical State and Appearance	Clear. Liquid.	**Odour**	Slight Mild.
pH	8 - 9 (Neat-without dilution.)	**Colour**	Yellow.
Specific gravity	1.059 - 1.071 @ 20°C (68°F)		
Vapour Density	>1 (Air = 1)		
Vapour Pressure	Not Available or Not Applicable for Solids.		
Boiling Point	Not available.		
Evaporation Rate	>1 (compared to Ether (anhydrous)).		
VOC	Not available.		
Viscosity	Not available.		
Pour Point	<-40C(<-40F)		
Solubility (Water)	Soluble		
Odour threshold	Not available.		
Partition coefficient	Not available.		
Physical Chemical Comments	Not available.		

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Conditions of Instability	Not available.
Incompatibility with Various Substances	Oxidizing material.
Hazardous Decomposition Products	Not applicable.
Hazardous Polymerization	Hazardous polymerization may occur.
Special Stability & Reactivity Remarks	Not available.

Section 11. Toxicological Information

Component Toxicological Information

Acute Animal Toxicity

1) Alkanolamine/aldehyde condensate	ORAL (LD50): Acute: 763 mg/kg [Rat].
2) Formaldehyde	ORAL (LD50): Acute: 42 mg/kg [Mouse]. 100 mg/kg [Rat]. DERMAL (LD50): Acute: 270 mg/kg [Rabbit]. VAPOR (LC50): Acute: 45400 mg/m^3 4 hours [Mouse].
3) Methanol	ORAL (LD50): Acute: 5628 mg/kg [Rat]. 7300 mg/kg [Mouse]. DERMAL (LD50): Acute: 15800 mg/kg [Rabbit].

Chronic Toxicity Data

Continued on Next Page

1) Alkanolamine/aldehyde condensate

Not available.

2) Formaldehyde

Formaldehyde is a component of this product. The major concerns with repeated formaldehyde exposure are sensitization and cancer. Formaldehyde is a listed carcinogen by IARC, NTP, and OSHA.

Several large epidemiological studies concluded that exposure to formaldehyde is associated with increased risk of nasal, mouth, or throat cancer in humans. Most epidemiologic studies have found a similar result, of a slightly elevated risk for lung cancer mortality with formaldehyde exposure (Callas et al, 1996; Sterling & Weinkam, 1996). Formaldehyde caused nasal tumors in rats exposed by inhalation to an airborne concentration of 15 ppm (Swenberg et al, 1980), or by subcutaneous injection (RTECS). Tumors were also seen in monkeys exposed by inhalation to the lower level of 0.2 to 3 ppm, but not in similarly exposed hamsters (HSDB).

Formaldehyde is a potent genotoxin and has been reported to be active in many short-term genetic tests, including the Ames Salmonella assay and other assays for mutation using bacteria, chromosome aberrations and sister chromatid exchanges in vitro and in vivo, and many assays detecting direct effects on DNA (RTECS). One study found a 3.5-fold increased risk for spontaneous abortions in female laboratory workers exposed to formalin, but no increases in birth defects were seen (Taskinen et al, 1994).

Inhalation exposure to an airborne concentration of 40 ppm (close to a lethal dose) caused some degenerative changes in the uterus and ovaries in mice (Maronpot et al, 1986). Formaldehyde affected the sperm mobility, viability, and sperm count in male rats given 10 mg/kg/day for 30 days and also in in-vitro studies (Majumder & Kumar, 1995). Effects on sperm in rats have also been reported following inhalation exposure (RTECS, 1997). Hence, it is possible that formaldehyde may be a direct gonadotoxin.

3) Methanol

Methanol is a component of this product. Because methanol is eliminated from the body more slowly than ethanol, it can have cumulative toxicity with repeated exposures (ACGIH, 1992).

Methanol was mutagenic in yeast (RTECS). Methanol has caused chromosome aberrations in yeast (RTECS) and grasshoppers (Saha & Khudabaksh, 1974).

Methanol has caused birth defects in rats exposed by the oral (Infurna et al, 1981) and inhalation (Nelson et al, 1984; Nelson et al, 1985) routes. Exencephaly (a defect in the skull bone structure that leaves the brain exposed) and cleft palate (a fissure or unformed bone structure in the roof of the mouth (palate), lip, or facial area, occurring during the embryonic stage of development) were increased in fetal mice exposed to methanol at an airborne concentration of 5,000 ppm or higher for 7 hours/day on days 6 to 15 of gestation.

Embryotoxicity and fetotoxicity were seen with maternal exposure to airborne concentrations of 7,500 ppm and above, and reduced fetal weights with concentrations of 10,000 ppm or greater. The NOAEL was 1,000 ppm. Effects similar to those seen in the 10,000 ppm dosage group were also seen in offspring of mice given a dose of 4 g/kg orally (Rogers et al, 1993).

Product Toxicological Information

Acute Animal Toxicity	Not available.
Target Organs	nervous system, gastrointestinal tract, respiratory tract, skin/epithelium, eyes, nose/sinuses.
Other Adverse Effects	Not available.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Biodegradable/OECD	Not available.
Toxicity of the Products of Biodegradation	Not available.
Special Remarks	Not available.

Continued on Next Page

Section 13. Disposal Considerations

Responsibility for proper waste disposal rests with the generator of the waste. Dispose of any waste material in accordance with all applicable federal, state and local regulations. Note that these regulations may also apply to empty containers, liners and rinsate. Processing, use, dilution or contamination of this product may cause its physical and chemical properties to change.

Additional Waste Remarks Not available.

Section 14. Transport Information

TDG Classification

FLAMMABLE LIQUID, N.O.S., (contains Methanol), Class 3, UN1993, PG III

Marine Pollutant Not applicable.

Additional TDG information Not available.

Emergency Response Guide Page Number 128

Section 15. Regulatory Information

Canadian Regulations

Environmental Regulations National Pollutant Release Inventory: Formaldehyde; Methanol;

DSL Inventory All components are compliant with or are exempted from listing on the Canadian Domestic Substance List.

TSCA Inventory Status All components are included or are exempted from listing on the US Toxic Substances Control Act Inventory.

This product does not contain any components that are subject to the reporting requirements of TSCA Section 12(b) if exported from the United States.

International Regulations

European Union All components are included or are exempted from listing on the European Inventory of Existing Commercial Chemical Substances or the European List of Notified Chemical Substances.

International inventory status information is available upon request from Baker Petrolite for the following countries: Australia, and Australia (NICNAS), China, Korea (TCCL), Philippines (RA6969), or Japan.

Harmonized Tariff Code Not available.

Other Regulatory Information No further regulatory information is available.

Section 16. Other Information

Other Special Considerations Not available.

Baker Petrolite Disclaimer

Continued on Next Page

NOTE: The information on this MSDS is based on data which is considered to be accurate. Baker Petrolite, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This MSDS was prepared and is to be used for this product. If the product is used as a component in another product, this MSDS information may not be applicable.