
SAFETY DATA SHEET

Section 1: IDENTIFICATION

Product Name: TKS Fluid
Product Code: B9065
MSDS Date: November 7, 2014

AccuChem Division
 2101 Clifton Ave
 St. Louis, MO 63139

General Information: 314-644-1300
CHEMTREC: 800-424-9300

Section 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

GHS Classification:
 Flammable liquids (Category 3)
 Acute toxicity, Oral (Category 4)

GHS Labeling



Symbol:

Signal Word: Warning

Hazard Statements:
 Flammable liquid and vapor
 Harmful if swallowed.

Precautionary Statements:

Prevention:

Do not eat, drink or smoke when using this product.
 Ground/bond container and receiving equipment.
 Keep away from heat/sparks/open flames/hot surfaces-no smoking.
 Keep container tightly closed.
 Take precautionary measure against static discharge.
 Use only non-sparking tools.
 Wash thoroughly after handling.
 Wear protective gloves/eye protection/face protection

Response:

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water shower.
 If swallowed: Immediately call a poison center/doctor. Rinse mouth.
 In case of fire: SMALL FIRE: Use dry chemicals, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Use water spray, water fog or alcohol-resistant foam to extinguish.

Storage:

Store in a well-ventilated place. Keep cool.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.

Potential Health Effects: See Section 11 for more information

This product does not contain carcinogens or potential carcinogens as listed by IARC, NTP, or ACGIH.

This material contains components that are considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Potential Environmental Effects: See Section 12 for more information.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

No.	Component CAS REG. NO.	Amount %	OSHA		ACGIH	
			TWA	STEL	TWA	STEL
1	Ethylene Glycol CAS #107-21-1	30-100	Not Avail	Not Avail	100 mg/m3	Not Avail
2	Isopropyl Alcohol CAS #67-63-0	1-20	400 ppm	Not Avail	400 ppm	Not Avail
3	Diethylene Glycol CAS #111-46-6	1-20	Not Avail	Not Avail	Not Avail	Not Avail

Section 4: FIRST AID MEASURES

Emergency first aid procedures by route of exposure:

General advice

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. For specific information refer to the Emergency Overview in Section 2 of this MSDS.

Skin

Remove contaminated clothing and wash skin with plenty of soap and water. Obtain immediate emergency medical attention if burn is deep or extensive. If sticky, use waterless cleaner first. Seek medical attention if ill effect or irritation develops.

Inhalation

If overcome by exposure, remove victim to fresh air immediately. If breathing is difficult, give oxygen. Remove person to fresh air. If signs/symptoms continue, get medical attention.

Eyes

Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

Ingestion

DO NOT induce vomiting. If vomiting does occur, have victim lean forward to reduce risk of aspiration. Obtain emergency room treatment immediately.

Notes to physician

Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Flash Point: >105°F (41°C)
Lower Explosion Limit: (Isopropyl Alcohol): 2.0
Upper Explosion Limit: (Isopropyl Alcohol): 12.7
Auto Ignition Temp: (Isopropyl Alcohol) Not Available

Suitable Extinguishing Media: SMALL FIRE: Use dry chemicals, CO₂, water spray or alcohol-resistant foam.
LARGE FIRE: Use water spray, water fog or alcohol-resistant foam.

Products of Combustion: May form carbon monoxide, and carbon dioxide

Fire Fighting Equipment/Instructions:

Protective equipment and precautions for firefighters

Wear an approved positive pressure self-contained breathing apparatus and firefighter turnout gear. Structural firefighters protective clothing will only provide limited protection.

Precautions for fire-fighting

Ethylene glycol mist in air is a moderate fire and explosion hazard. Individuals should perform only those fire-fighting procedures for which they have been trained. Fire fighters should wear self-contained breathing apparatus in the positive pressure mode with a full facepiece when there is a possibility of exposure to smoke, fumes or hazardous decomposition products. Cool tanks and containers exposed to fire with water. Cool containers with flooding quantities of water until well after fire is out.

HAZARD	HMIS	NFPA
Toxicity	1	1
Fire	1	1
Reactivity	0	0

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Protection: For large spills wear gloves, Tyvek suits, safety glasses, and appropriate NIOSH approved respiratory protection. Keep unnecessary personnel away. Eliminate all sources of ignition or flammables that may come into contact with a spill of this material.

Special Properties: Eliminate all sources of ignition. All equipment used when handling this product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. For large spills, dike and pump into properly labeled containers for reclamation or disposal. For small spills, soak up with absorbent material and place in properly labeled containers for disposal. Report spills or leaks to the proper regulatory authorities.

Environmental Precautions: Prevent discharge to open bodies of water, municipal sewers, and watercourses.

Method for Containment: Absorb spilled liquid in suitable non-flammable inert material such as clay, vermiculite or diatomaceous earth. Control runoff and isolate discharged material for proper disposal. Approach release from upwind.

Methods for Clean-up: Ventilate area of leak or spill. Use spark-proof tools to sweep or scrape up and containerize in approved chemical waste container.

Section 7: HANDLING AND STORAGE

Handling

Avoid open heating or agitation that may generate vapors or mists. Do not handle near heat, sparks, or flame. Avoid contact with incompatible agents. Use only with adequate ventilation/personal protection. Avoid contact with eyes, skin and clothing. Do not enter storage area unless adequately ventilated. Metal containers involved in the transfer of this material should be grounded and bonded. Containers, even those that have been emptied, will retain product residue and vapor and should be handled as if they were full. Do not eat, drink or smoke in areas where this material is used.

Storage

Store containers in a cool, dry, ventilated, fire resistant area away from sources of ignition and incompatible materials. Ground all equipment containing this material. Keep container tightly closed and properly labeled.

Section 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

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

Personal Protective Equipment (PPE)

Respiratory Protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Where unknown concentrations are encountered or during an emergency, use NIOSH approved supplied air respirators.

Eye/Face Protection: Safety glasses are recommended for normal use. Use splash goggles when eye contact due to splashing or spraying liquid is possible.

Hand Protection: Neoprene gloves, vinyl gloves, polyethylene gloves, Viton gloves are recommended

Body: Avoid skin contact. If product comes in contact with clothing, immediately remove soaked clothing and shower. Use rubber apron or tyvek suit.

Other Protective Equipment:

Facilities storing or utilizing this material should be equipped with eyewash and safety shower facilities. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Take off contaminated clothing and wash before reuse. Shower after work using plenty of soap and water.

See section 3 for exposure limits.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance, State	Clear liquid
Color	Colorless
Odor	Slight sweet odor
pH	Not Available
Vapor Density	Not Available
Boiling Point (Ethylene Glycol)	197.5°C (387.5°F)
Vapor Pressure (Ethylene Glycol)	0.05 mm Hg @ 20°C (68°F)
Melting Point (Ethylene Glycol)	-13°C (8.6°F)
Freezing Point (Ethylene Glycol)	-13°C (8.6°F)
Flash Point (See Section 5)	
Flammability Properties (See section 5)	
Solubility (water)	Soluble
Relative vapor density:	2.14 (Air = 1.0)

Evaporation Rate	Not Available
Octanol/Water partition coefficient (Kow)	Ethylene Glycol = -1.36
Auto-ignition temperature (see section 5)	
Decomposition temperature:	Not Available
Viscosity	Not Available

Section 10: STABILITY AND REACTIVITY

Stability: This material is considered stable at ambient temperatures 70°C (21°C).

Condition to Avoid: Heat, sparks, open flames and strong oxidizing conditions.

Materials to Avoid: Strong oxidizer. Strong acids. Permanganates. Peroxides. Dichromates. Reactive sodium compounds. Sulfur compounds. Alkali metals. Nitrates.

Hazardous Decomposition: Upon decomposition, this product evolves carbon monoxide, carbon dioxide.

Hazardous Reactions: This product will not undergo polymerization.

Reactions with Air and Water: Does not react with air or water.

Section 11: TOXICOLOGICAL INFORMATION

ACUTE EFFECTS:

Component Analysis LD50

Ethylene Glycol (107-21-1)
Inhalation LC50 Rat >1,172 PPM
Oral LD50 Rat 25,300 mg/kg
Skin LD50 Rabbit 12,500 mg/kg

Isopropyl Alcohol (67-63-0)
Inhalation LC50 Rat: 72.6 mg/L/4H
Oral LD50 Rat: 4396 mg/kg
Dermal LD50 Rat: 12800 mg/kg
Dermal LD50 Rabbit: 12870 mg/kg

CHRONIC EFFECTS:

Component

Ethylene Glycol (107-21-1)

Carcinogenicity: Not carcinogenic in two year studies with rats and mice. This material is not classified as a carcinogen. Not listed by IARC, NTP, OSHA, or EPA.

Neurotoxicity: persistent neurological effects include facial paralysis, slurred speech, loss of motor skills, and impaired vision.

Mutagenicity: Negative for genotoxicity using both in vitro and in vivo tests.

Reproductive: This product is a reproductive and developmental toxicant when administered at high doses in experimental animals. May cause toxicity to reproduction following repeated doses at generally high exposure concentration based on animal test data. Selective reproductive toxicant to mice, but not rats. In mice reproductive effects were observed at dose levels higher than those causing developmental toxicity in mice or renal toxicity in rats.

Developmental: This product is a reproductive and developmental toxicant when administered at high doses in experimental animals. May be toxic to embryo/fetal development and teratogenic at high exposure levels based on animal test data.

Target Organs: Ingestion hazard. Ingestion may cause CNS depression; damage to gastrointestinal tract,

lungs, liver, brain, and kidneys; metabolic acidosis; and hyperkalaemia and hypercalcaemia. Accidental or intentional acute ingestions in humans have caused poisoning and death. May damage the kidneys. Skin: May be mildly irritating to the skin. Not a sensitizer. **Inhalation:** High aerosol concentrations may cause respiratory irritation. **Eyes:** May cause mild eye irritation. **Skin:** The substance is poorly absorbed through the skin. Contact may cause mild skin irritation. **Ingestion:** Ingestion may include inebriation, nausea and vomiting, metabolic acidosis, and CNS depression. Cardiopulmonary effects include tachycardia, hypertension, severe metabolic acidosis with hyperventilation, hypoxia, congestive heart failure and adult respiratory distress syndrome, as well as, renal failure are also possible. May also produce a local irritation effect on the digestive system, and cause pain and bleeding.

Isopropyl Alcohol (67-63-0)

Carcinogenicity: No known hazards

Mutagenicity: Not available.

Reproductive: Not available.

Developmental: Not available.

Target Organs: skin, eyes, CNS, and respiratory system. **Eye:** Contact with eyes may cause redness and pain. **Skin:** Contact with skin may cause dry skin. **Inhalation:** Inhalation of this material may cause: cough, dizziness, drowsiness, headache, sore throat, abdominal pain, labored breathing, nausea, vomiting, and unconsciousness. **Ingestion:** Ingestion of this material may cause: cough, dizziness, drowsiness, headache, sore throat, abdominal pain, labored breathing, nausea, vomiting, and unconsciousness.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Ethylene Glycol (107-21-1)

96 Hour LC50 *Oncorhynchus mykiss* (rainbow trout) 22,810 mg/l

96 Hour LC50 *Pimephales promelas* (fathead minnow) 49,000 mg/l

48 Hour EC50 *Daphnia magna* (Water Flea) 41,000 mg/l

96 Hour IC50 *Scenedesmus capricornutum* (fresh water algae) 10,940 mg/l

16 Hour *Pseudomonas putida* > 10,000 mg/l

12 day NOEC *Oncorhynchus mykiss* (rainbow trout) 14,692 mg/l

7 day NOEC *Ceriodaphnia dubia* 3,469 mg/l

Ecotoxicity: Isopropyl Alcohol (67-63-0)

96 Hr EC50 *Scenedesmus Subspicatus*: >1000 mg/L

72 Hr EC50 *Scenedesmus subspicatus*: >1000 mg/L

96 Hr LC50 *Pimephales promelas*: 9640 mg/L [flow through]

96 Hr LC50 *Pimephales promelas*: 94900 mg/L [flow through] (29 days old)

96 Hr LC50 *Pimephales promelas*: 61200 mg/L [flow through] (31 days old)

5 min EC50 *Photobacterium phosphoreum*: 35390 mg/L

48 Hr EC50 *Daphnia magna*: 13299 mg/L

Section 13: DISPOSAL CONSIDERATIONS

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

Section 14: TRANSPORT INFORMATION

Proper Shipping Name: Combustible liquid, n.o.s.

Hazard Class: 3

Identification No.: NA1993

Packing Group: III

Placard: Combustible (Bulk Only)

Section 15: REGULATORY INFORMATION

TSCA Inventory This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.

SARA 302/304 The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to Subparts 302 and 304 to submit emergency planning and notification information based on Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for "Extremely Hazardous Substances" listed in 40 CFR 302.4 and 40 CFR 355. No components identified

SARA 313: Ethylene Glycol

CERCLA The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically designated in 40 CFR 302.4. Chemical substances present in this product or refinery stream that may be subject to this statute are: ethylene glycol 5,000 lbs.

SARA 311/312 Hazard The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to this subpart to submit aggregate information on chemicals by "Hazard Category" as defined in 40 CFR 370.2. This material would be classified under the following hazard categories: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard

Section 16: OTHER SUPPLEMENTAL INFORMATION

Prepared by: Chemisphere Corp. on May 28, 2014

Disclaimer:

The information and recommendations contained in the Safety Data Sheet (SDS) are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. The information and recommendations set forth herein are presented in good faith and believed to be correct as of this date hereof.

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