



SAFETY DATA SHEET

1. Identification

Product Name: TKS Fluid-406B
Product Code: B9065
SDS Date: 7/28/17
Use: Industrial

Chemisphere Corporation
2101 Clifton Ave
St. Louis, MO 63139

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

2. Hazard(s) identification

GHS Classification

Flammable liquid, (Category 3)
Acute toxicity, Oral (Category 4)
Specific target organ toxicity - repeated exposure, Oral (Category 2), Kidney

Pictogram



Signalword Warning

Hazard Statement

Flammable liquid and vapor.
Harmful if swallowed.
May cause damage to organs through prolonged or repeated exposure.

Precautionary

Keep away from heat/sparks/open flame. Keep container tightly closed. Ground/bond container and receiving equipment. Use only non-speaking tools. Take precautionary measures against static discharge. Wear protective gloves/eye protection/ face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe mist/vapors/spray. 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. Get medical advice/attention if you feel unwell. Dispose of contents/ container in accordance with local/regional/national/international regulations.

Hazards not otherwise classified: Not available



3. Composition/information on ingredients

Name	CAS	Concentration
Ethylene Glycol	107-21-1	50-100
Diethylene Glycol	111-46-6	<5
Isopropyl Alcohol	67-63-0	1-10

4. First-aid measures

General Advice	Not expected to be a health hazard when used under normal conditions.
If Inhaled	Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.
In Case of Skin Contact	Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.
In Case of Eye Contact	Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
If Swallowed	DO NOT DELAY. If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

Most important symptoms and effects, both acute and delayed

Kidney toxicity may be recognized by blood in the urine or increased or decreased urine flow. Other signs and symptoms can include nausea, vomiting, abdominal cramps, diarrhoea, lumbar pain shortly after ingestion, and possibly narcosis and death. Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.

Indications of any immediate medical attention and special treatment needed

IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT! May cause significant renal, respiratory, and CNS toxicity. May cause significant acidosis. Call a doctor or poison control center for guidance.

5. Fire-fighting measures

Extinguishing Media	Alcohol-resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Special Hazards	Material will not burn unless preheated. Carbon monoxide may be evolved if incomplete combustion occurs. Containers exposed to intense heat from fires should be cooled with large quantities of water.
Advice for firefighters	Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).
Further Information	Clear fire area of all non emergency personnel. Evacuate the area of all non-essential personnel. Keep adjacent containers cool by spraying with water.



6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures

Observe all relevant local and international regulations. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. Avoid contact with skin, eyes and clothing.

Environmental precautions

Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers. Use appropriate containment to avoid environmental contamination. Ventilate contaminated area thoroughly.

Methods and materials for containment and cleaning up

Contain run-off from residue flush and dispose of properly. Soak up residue with an absorbent such as clay, sand or other suitable material. For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

7. Handling and storage

Safe Handling

Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Ensure that all local regulations regarding handling and storage facilities are followed. Use local exhaust extraction over processing area. Handle and open container with care in a well-ventilated area. Do not empty into drains. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Handling Temperature: Ambient.

Safe Storage

Tanks must be clean, dry and rust free. Keep container tightly closed. Must be stored in a diked (bunded) well-ventilated area, away from sunlight, ignition sources and other sources of heat. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions. Drums should be stacked to a maximum of 3 high. Storage Temperature: Ambient.

8. Exposure controls/personal protection

Name		CAS	
Ethylene Glycol		107-21-1	
OSHA TWA	OSHA STEL	ACGIH TWA	ACGIH STEL
Not Available	Not Available	100 mg/m3	Not Available
Diethylene Glycol		111-46-6	
OSHA TWA	OSHA STEL	ACGIH TWA	ACGIH STEL
Not Available	Not Available	Not Available	Not Available



Isopropyl Alcohol		67-63-0	
OSHA TWA	OSHA STEL	ACGIH TWA	ACGIH STEL
400 ppm	Not Available	200 ppm	400 ppm

Engineering Control

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate explosion proof ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated. Eye washes and showers for emergency use.

Eye/Face Protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin Protection

Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. When prolonged or frequent repeated contact occurs. Nitrile rubber gloves. Incidental contact/Splash protection: PVC or neoprene rubber gloves For continuous contact we recommend gloves with break-through time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non perfumed moisturizer is recommended.

Body Protection

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. If air filtering respirators are suitable for conditions of use: Select a filter suitable for the combination of organic gases and vapors [Type A/Type P boiling point >65°C (149°F)].

Control of Environmental Exposure

Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour. Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.



9. Physical and chemical properties

Appearance	Ethylene Glycol	Liquid
Odor	Ethylene Glycol	No data available
Odor Threshold	Ethylene Glycol	No data available
pH	Ethylene Glycol	No data available
Melting/Freezing Point	Ethylene Glycol	-12.99 °C (8.62 °F)
Initial Boiling Point/Range	Ethylene Glycol	195 - 198 °C (383 - 388 °F) at 1,013 hPa (760 mmHg)
Flash Point	Ethylene Glycol	116 °C (241 °F) - closed cup
Evaporation Rate	Ethylene Glycol	1
Flammability	Ethylene Glycol	Not classified as a flammability hazard
Upper Explosion Limit	Ethylene Glycol	28%
Lower Explosion Limit	Ethylene Glycol	3.2%
Vapor Pressure	Ethylene Glycol	2.2
Vapor Density	Ethylene Glycol	1.1155 (20 °C / 68 °F)
Relative Density	Ethylene Glycol	Typical 1,113 kg/m ³ (20 °C / 68 °F) Method: ASTM D4052
Water Solubility	Ethylene Glycol	completely soluble
Partition Coefficient	Ethylene Glycol	log Pow: -1.93
Auto Ignition Temperature	Ethylene Glycol	398 °C / 748 °F
Decomposition Temperature	Ethylene Glycol	No data available
Viscosity	Ethylene Glycol	16.1 mPa.s (25 °C / 77 °F)

10. Stability and reactivity

Reactivity	The product does not pose any further reactivity hazards in addition to those listed in the following sub paragraph.
Chemical Stability	No hazardous reaction is expected when handled and stored according to provisions. Oxidises on contact with air.
Possibility of Hazardous Reactions	None known.
Conditions to Avoid	Extremes of temperature and direct sunlight. Product cannot ignite due to static electricity.
Incompatible materials	Strong oxidising agents. Strong acids. Strong bases.
Hazardous Decomposition Products	Other decomposition products - No data available



11. Toxicological information

Name	CAS
Ethylene Glycol	107-21-1
LD50 Oral - Rat - 4,700 mg/kg	
Inhalation: No data available	
LD50 Dermal - Rabbit - 10,626 mg/kg	
Skin corrosion/irritation	Result: Slightly irritating to skin.
Serious eye damage/eye irritation	Result: Mild eye irritation - 24 h
Respiratory or skin sensitization	Not expected to be a sensitiser.
Germ cell mutagenicity	No evidence of mutagenic activity.
Carcinogenicity	Not identified as probable, possible or confirmed human carcinogen by IARC, NTP, or OSHA
Reproductive	Laboratory experiments have shown teratogenic effects.
Additional information	Remarks: Inhalation of vapours or mists may cause irritation to the respiratory system., Ingestion may cause drowsiness and dizziness.

Name	CAS
Diethylene Glycol	111-46-6
LD50 Oral - Rat - 12,565 mg/kg	
LD50 Oral - Human - 1,000 mg/kg	
Inhalation - No data available	
LD50 Dermal - Rabbit - 11,890 mg/kg	
Skin corrosion/irritation	Result: No skin irritation
Serious eye damage/eye irritation	Result: No eye irritation
Respiratory or skin sensitization	Result: Did not cause sensitisation on laboratory animals.
Germ cell mutagenicity	No data available
Carcinogenicity	Not identified as probable, possible or confirmed human carcinogen by IARC, NTP, or OSHA
Reproductive	No data available
Additional information	Symptoms and signs of poisoning are: Confusion., Dizziness, Kidney injury may occur., Unconsciousness, Convulsions, Nausea, Headache, Vomiting, Pulmonary edema. Effects may be delayed.



Name	CAS
Isopropyl Alcohol	67-63-0
LD50 Oral - Rat - 5,045 mg/kg	
LC50 Inhalation - Rat - 8 h - 16000 ppm	
LD50 Dermal - Rabbit - 12,800 mg/kg	
Skin corrosion/irritation	Result: Mild skin irritation
Serious eye damage/eye irritation	Result: Eye irritation - 24 h
Respiratory or skin sensitization	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (2-Propanol)
Reproductive	No data available
Additional information	Central nervous system depression, prolonged or repeated exposure can cause:, Nausea, Headache, Vomiting, narcosis, Drowsiness, Overexposure may cause mild, reversible liver effects., Aspiration may lead to:, Lung oedema, Pneumonia

12. Ecological information

Name	CAS	Toxicity
Ethylene Glycol	107-21-1	LC50 - Oncorhynchus mykiss (rainbow trout) - 18,500 mg/l - 96 h LC50 - Leuciscus idus (Golden orfe) - > 10,000 mg/l - 48 h NOEC - Pimephales promelas (fathead minnow) - 32,000 mg/l - 7 d NOEC - Pimephales promelas (fathead minnow) - 39,140 mg/l - 96 h Toxicity to daphnia and EC50 - Daphnia magna (Water flea) - 74,000 mg/l - 24 h NOEC - Daphnia (water flea) - 24,000 mg/l - 48 h LC50 - Daphnia magna (Water flea) - 41,000 mg/l - 48 h
Diethylene Glycol	111-46-6	LC50 - Pimephales promelas (fathead minnow) - 75,200 mg/l - 96 h LC50 - Carassius auratus (goldfish) - 5,000 mg/l - 24 h EC50 - Daphnia magna (Water flea) - > 10,000 mg/l - 24 h



Isopropyl Alcohol	67-63-0	LC50 - Pimephales promelas (fathead minnow) - 9,640.00 mg/l - 96 h, EC50 - Daphnia magna (Water flea) - 5,102.00 mg/l - 24 h, Immobilization EC50 - Daphnia magna (Water flea) - 6,851 mg/l - 24 h, Toxicity to algae EC50 - Desmodesmus subspicatus (green algae) - > 2,000.00 mg/l - 72 h, EC50 - Algae - > 1,000.00 mg/l - 24 h
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13. Disposal considerations

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

14. Transport information

Proper Shipping Name	Flammable Liquid, n.o.s. (Isopropyl Alcohol)
Hazard Class	3
Identification Number	UN1993
Packing Group	III
Label	Flammable

15. Regulatory information

Name	CAS
Ethylene Glycol	107-21-1
SARA 302/304	No components were identified
SARA 313	313
CERCLA	RQ = 5,000 lbs
SARA 311/312	Acute Health Hazard, Chronic Health Hazard
PROP 65	developmental hazard
This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.	



Name	CAS
Diethylene Glycol	111-46-6
SARA 302/304	No components were identified
SARA 313	No components were identified
CERCLA	No components were identified
SARA 311/312	Acute Health Hazard
PROP 65	No components were identified
This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.	
Name	CAS
Isopropyl Alcohol	67-63-0
SARA 302/304	No components were identified
SARA 313	No components were identified
CERCLA	No components were identified
SARA 311/312	Fire Hazard, Acute Health Hazard, Chronic Health Hazard
PROP 65	No components were identified
This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.	

16. Other information, including date of preparation or last revision

SDS Date:

Disclaimer:

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