



SAFETY DATA SHEET
Kilfrost TKS 406B

According to ANSI Z-400. 1-2004

1. IDENTIFICATION

Product Name Kilfrost TKS 406B
Identification No. 1993
Identified uses De-icing fluid for TKS-in flight de-icing systems. AL - 5 (DTD 406B) NATO code: S-745
Supplier Kilfrost Inc
1801 North Military Trail
Suite 201
Boca Raton
Florida 33431
USA
Working Hours: 954 282 5050
FAX: 954 282 5049
Email: infoamericas@kilfrost.com
Emergency Telephone Kilfrost Inc. Emergency Tel: 954 558 7268 or 954 756 5645

For Chemical Emergency
Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
For Chemical Emergency
Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2. HAZARD(S) IDENTIFICATION

In use, may form flammable/explosive vapor-air mixture.

Appearance Clear liquid.
Color Colourless.
Odor No characteristic odor.
GHS Pictogram



Signal Word Warning

Hazard Statements

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H373	May cause damage to organs Kidneys through prolonged or repeated exposure if swallowed.

Precautionary Statements

P102	Keep out of reach of children.
P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P270	Do not eat, drink or smoke when using this product.
P260	Do not breathe vapour/spray.
P370+378	In case of fire: Use foam, carbon dioxide, dry powder or water fog for extinction.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P501	Dispose of contents/container in accordance with local regulations.

Contains ETHANEDIOL

Kilfrost TKS 406B

GHS Classification

Physical and Chemical Hazards Flam. Liq. 3 - H226
Human health Acute Tox. 4 - H302; STOT RE 2 - H373
Environment Not classified.

Human Health

In high concentrations, vapors and aerosol mists have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

Inhalation

In high concentrations, vapors may irritate throat and respiratory system and cause coughing.

Ingestion

Harmful if swallowed. May cause stomach pain or vomiting. Gastrointestinal symptoms, including upset stomach.

Skin Contact

Repeated exposure may cause skin dryness or cracking.

Eye Contact

Irritating and may cause redness and pain.

3. COMPOSITION/INFORMATION ON INGREDIENTS

ETHANEDIOL

60-100%

CAS No.: 107-21-1

EC No.: 203-473-3

GHS Classification

Acute Tox. 4 - H302; STOT RE 2 - H373

METHANOL

< 0.5%

CAS No.: 67-56-1

EC No.: 200-659-6

GHS Classification

Flam. Liq. 2 - H225; Acute Tox. 3 - H301; Acute Tox. 3 - H311; Acute Tox. 3 - H331; STOT SE 1 - H370

4. FIRST-AID MEASURES

Description of first aid measures

General Information

Treat Symptomatically.

Inhalation

Move the exposed person to fresh air at once. Get medical attention.

Ingestion

Immediately rinse mouth and drink plenty of water or milk. Keep person under observation. Do not induce vomiting. If vomiting occurs, keep head low. Transport immediately to hospital and bring along these instructions.

Skin Contact

Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues.

Eye Contact

Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

Most important symptoms and effects, both acute and delayed

Inhalation

Irritation of nose, throat and airway. Vapors may cause headache, fatigue, dizziness and nausea.

Ingestion

May cause discomfort if swallowed. Sore throat. May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication.

Skin Contact

Prolonged skin contact may cause redness and irritation.

Eye Contact

Irritating and may cause redness and pain.

Indication of any immediate medical attention and special treatment needed

Notes To The Physician

No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!

5. FIRE-FIGHTING MEASURES

Auto Ignition Temperature (°C) 365
Flash point (°C) 54 CC (Closed cup).

Extinguishing Media

Extinguish with alcohol-resistant foam, carbon dioxide or dry powder. Use fire-extinguishing media appropriate for surrounding materials.

Hazardous combustion products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

Unusual Fire & Explosion Hazards

FLAMMABLE.

Special Fire Fighting Procedures

Water spray should be used to cool containers. Avoid breathing fire vapors.

Protective Equipment For Fire-Fighters

Wear full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

For personal protection, see section 8. Avoid inhalation of vapors and spray mists.

Environmental Precautions

Contain spillages with sand, earth or any suitable adsorbent material. Avoid discharge to the aquatic environment.

Spill Clean Up Methods

Absorb spillage with non-combustible, absorbent material. Collect in containers and seal securely. Flush area clean with lots of water. Be aware of potential for surfaces to become slippery. For waste disposal, see section 13.

Reference to other sections

For personal protection, see section 8. Collect and dispose of spillage as indicated in section 13.

7. HANDLING AND STORAGE

Handling

Avoid spilling, skin and eye contact. Read and follow manufacturer's recommendations. Keep away from heat, sparks and open flame. Static electricity and formation of sparks must be prevented. Use explosion proof electric equipment.

Storage

Store in tightly closed original container in a dry, cool and well-ventilated place.

Storage Class

Flammable liquid storage.

Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredient Comments

No exposure limits noted for ingredient(s).

Protective Equipment



Process Conditions

Provide eyewash station.

Engineering Measures

No specific recommendation made, but respiratory protection must be used if the general level exceeds the Recommended Occupational Exposure Limit All handling to take place in well-ventilated area.

Respiratory Equipment

If ventilation is insufficient, suitable respiratory protection must be provided.

Hand Protection

Use protective gloves. Rubber, neoprene or PVC.

Eye Protection

Wear approved safety goggles.

Other Protection

Wear suitable protective clothing as protection against splashing or contamination.

Hygiene Measures

When using do not eat, drink or smoke. Wash hands after handling. Wash contaminated clothing before reuse.

Environmental Exposure Controls

Keep container tightly sealed when not in use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear liquid.
Color	Colourless.
Odor	No characteristic odor.
Solubility	Miscible with water
Initial boiling point and boiling range (°C)	120 @ 760 mm Hg
Relative density	1.092 - 1.097 @ 20
Vapor density (air=1)	2
Vapor pressure	7 mm Hg @ 20
Viscosity	11 - 13 m2/s @ 20
Flash point (°C)	54 CC (Closed cup).
Auto Ignition Temperature (°C)	365
Freezing Point (°C)	> -60 degC

10. STABILITY AND REACTIVITY

Reactivity

No specific reactivity hazards associated with this product.

Stability

Stable under normal temperature conditions and recommended use.

The product is flammable, and heating may generate vapors which may form explosive vapor/air mixtures.

Conditions To Avoid

Avoid heat, flames and other sources of ignition.

Materials To Avoid

Strong oxidizing substances. Strong acids.

Hazardous Decomposition Products

None under normal conditions. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. TOXICOLOGICAL INFORMATION

Toxicological information

Harmful if swallowed.

Acute toxicity:**Acute Toxicity (Oral LD50)**

> 8000 mg/kg Rat

Estimated Value

12. ECOLOGICAL INFORMATION

Acute Fish Toxicity

Not considered toxic to fish.

Acute Toxicity - Fish

Not available.

Degradability

Readily biodegradable

Bioaccumulative potential

No data available on bioaccumulation.

Mobility:

The product is miscible with water. May spread in water systems.

Results of PBT and vPvB assessment

No data available.

Other adverse effects

Not determined.

13. DISPOSAL CONSIDERATIONS**Waste Management**

Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority.

Disposal Methods

Dispose of waste and residues in accordance with local authority requirements.

14. TRANSPORT INFORMATION

UN No. (DOT/TDG)	1993
UN No. (IMDG)	1993
UN No. (ICAO)	1993
DOT Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (Ethanol)
TDG Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (Ethanol)
DOT Hazard Class	
3	
DOT Hazard Label	
Flammable Liquid	
TDG Class	3
TDG Label(s)	3
IMDG Class	3
ICAO Class	3
Transport Labels	



DOT Pack Group	III
IMDG Pack Group	III
Air Pack Group	III
EMS	F-E, S-E

15. REGULATORY INFORMATION**US Federal Regulations****CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)**

None of the ingredients are listed.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed.

SARA 313 Emission Reporting

None of the ingredients are listed.

CAA Accidental Release Prevention

None of the ingredients are listed.

US State Regulations**International Inventories****Canada – DSL/NDSL**

None of the ingredients are listed.

US - TSCA

None of the ingredients are listed.

US – TSCA 12(b) Export Notification

None of the ingredients are listed.

16. OTHER INFORMATION

Kilfrost TKS 406B

General Information

Only trained personnel should use this material.

Revision Comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision Date	04/08/2014
Revision	2
Supersedes Date	09/03/2013
Material Safety Data Sheet Status	Approved.

Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.