

For Emergency Assistance involving chemicals call - CHEMTREC (800) 424-9300

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The Version Date for this MSDS is : 03/21/2000

Section 1. Chemical Product

Product Name: AVIATION LAB TKS BLEND
MSDS# CM0536
Date Issued: 3/20/2000
Supersedes: New
Issued By: 000099
Synonym Not available.
Trade Names: Not available.
Material Uses Not available.

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	Exposure Limits
Ethylene glycol	107-21-1	85	CEIL: 100 (mg/m3) from ACGIH (TLV) (United States) CEIL: 100 (ppm) CEIL: 127 (ppm)
Isopropyl alcohol	67-63-0	5	TWA: 983 STEL: 1230 (mg/m3) from ACGIH (TLV) (United States) TWA: 400 STEL: 500 (ppm) from ACGIH (TLV) (United States) TWA: 980 STEL: 1230 (ppm) from OSHA (PEL) (United States) TWA: 400 STEL: 500 (ppm) from OSHA (PEL) (United States)

Ingredients not precisely identified are proprietary or nonhazardous under Federal Hazard Communication Standard (29 CFR 1910.1200).

Section 3. Hazards Identification

Physical State and Appearance

Liquid.

Emergency Overview

WARNING!

Keep away from heat, sparks and flame. Avoid prolonged or repeated contact with skin. Keep container closed. Use only with adequate

ventilation. Avoid exposure during pregnancy. Wash thoroughly after handling.

Routes of Entry

Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Potential Acute Health Effects

Eyes

Slightly hazardous in case of eye contact (irritant).

Skin

Hazardous in case of skin contact (sensitizer).

Slightly hazardous in case of skin contact (irritant, permeator). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Inhalation

Slightly hazardous in case of inhalation.

Ingestion

Very hazardous in case of ingestion.

Potential Chronic Health Effects

CARCINOGENIC EFFECTS: Classified A4 (Not classifiable for human or animal.) by ACGIH (Ethylene glycol). Classified 3 (Not classifiable for human.) by IARC (Isopropyl alcohol).

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

Medical Conditions Aggravated by Overexposure:

Repeated or prolonged exposure is not known to aggravate medical condition.

Overexposure /Signs/Symptoms

Not available.

See Toxicological Information (Section 11)

Section 4. First Aid Measures

Eye Contact

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention if irritation occurs.

Skin Contact

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Hazardous Skin Contact

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

Hazardous Inhalation

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar,

tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Hazardous Ingestion

Not available.

Notes to Physician

Not available.

Section 5. Fire Fighting Measures

Flammability of the Product

Flammable.

Auto-ignition Temperature

The lowest known value is 398 C (748.4 F) (Ethylene glycol).

Flash Points

The lowest known value is CLOSED CUP: 11.67 C (53 F). OPEN CUP: 12 C (53.6 F). (Cleveland). (Isopropyl alcohol)

Flammable Limits

The greatest known range is LOWER: 3.2% UPPER: 15.3% (Ethylene glycol)

Products of Combustion

These products are carbon oxides (CO, CO₂).

Fire Hazards in Presence of Various Substances

Flammable in presence of open flames and sparks, of heat, of oxidizing materials.

Slightly flammable to flammable in presence of combustible materials.

Non-flammable in presence of shocks, of reducing materials, of organic materials, of metals, of acids, of alkalis.

Explosion Hazards in Presence of Various Substances

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions

Flammable liquid, soluble or dispersed in water.

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use alcohol foam, water spray or fog.

Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Protective Clothing (Fire)

Be sure to use an approved/certified respirator or equivalent.

Special Remarks on Fire Hazards

When heated to decomposition, it emits acrid smoke and irritating fumes. (Ethylene glycol)

Special Remarks on Explosion Hazards

Not available.

Section 6. Accidental Release Measures

Small Spill

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large Spill

Flammable liquid.

Keep away from heat Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Handling

Keep locked up Keep away from heat Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/vapor/spray. Wear suitable protective clothing If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, alkalis.

Storage

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

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 Protection

Eyes

Safety glasses.

Body

Lab coat.

Respiratory

Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Hands

Gloves (impervious).

Feet

Not applicable.

Personal Protection in Case of a Large Spill

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested

protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Chemical Name or Product Name	Exposure Limits
1,2-Ethanediol	CEIL: 100 (mg/m3) from ACGIH (TLV) (United States)
Isopropanol	TWA: 983 STEL: 1230 (mg/m3) from ACGIH (TLV) (United States) TWA: 400 STEL: 500 (ppm) from ACGIH (TLV) (United States) TWA: 980 STEL: 1230 (ppm) from OSHA (PEL) (United States) TWA: 400 STEL: 500 (ppm) from OSHA (PEL) (United States)

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and

Appearance

Liquid.

Boiling/Condensation Point

The lowest known value is 82 C (179.6 F) (Isopropyl alcohol). Weighted average: 182.4 C (360.3 F)

Melting/Freezing Point

May start to solidify at 0 C (32 F) based on data for:

Water. Weighted average: -15.95 C (3.3 F)

Color

Not available.

Specific Gravity

Weighted average: 1.08 (Water = 1)

Vapor Pressure

The highest known value is 4.4 kPa (@ 20 C) (Isopropyl alcohol). Weighted average: 0.24 kPa (@ 20 C)

Vapor Density

The highest known value is 2.14 (Air = 1) (Ethylene glycol). Weighted average: 2.14 (Air = 1)

Volatility

0% (v/v). (Ethylene glycol.) Weighted average: 7% (v/v) 0% (w/w). (Ethylene glycol.)

Odor Threshold

The highest known value is 43 ppm (Isopropyl alcohol)

Evaporation Rate

2.3 (Isopropyl alcohol) compared to Butyl acetate

VOC

-3 (%)

Viscosity

Not available.

Solubility

Easily soluble in cold water, hot water, methanol, diethyl ether.

Very slightly soluble in n-octanol.

pH (1% Soln/Water)

Neutral.

Odor

Not available.

Taste

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

Reactive with oxidizing agents, alkalis.

Slightly reactive to reactive with acids.

Hazardous Decomposition Products

Not available.

Hazardous Polymerization

Not available.

Section 11. Toxicological Information

Toxicity to Animals

Acute oral toxicity (LD50): 3600 mg/kg (Mouse).

(Isopropyl alcohol).

Acute dermal toxicity (LD50): 9530 mg/kg (Rabbit.).

(Ethylene glycol).

Chronic Effects on Humans

CARCINOGENIC EFFECTS: Classified A4 (Not classifiable for human or animal.) by ACGIH (Ethylene glycol).

Classified 3 (Not classifiable for human.) by IARC

(Isopropyl alcohol).

DEVELOPMENTAL TOXICITY: Classified Reproductive

system/toxin/female, Reproductive system/toxin/male

(PROVEN) (Ethylene glycol). Classified Reproductive

system/toxin/female, Reproductive system/toxin/male

(PROVEN) (Isopropyl alcohol).

Other Toxic Effects on Humans

Very hazardous in case of ingestion.

Hazardous in case of skin contact (sensitizer).

Slightly hazardous in case of skin contact (irritant, permeator), of inhalation.

Special Remarks on Toxicity to Animals

Toxic for humans or animal life. (Ethylene glycol)

Special Remarks on Chronic Effects on Humans

Detected in maternal milk in human. (Isopropyl alcohol)

Special Remarks on Other Toxic Effects on Humans

Exposure can cause nausea, headache and vomiting.

(Ethylene glycol)

Section 12. Ecological Information

Ecotoxicity

Not available.

BOD5 and COD

Not available.

Biodegradable/OECD

Not available.

Mobility

Not available.

Toxicity of the Products of Biodegradation

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation
Not available.

Section 13. Disposal Considerations

Waste Information

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Waste Stream

Not available.

Consult an expert on disposal of waste and materials used in spill cleanup and ensure conformity to all federal, state and local disposal regulations. Regulatory requirements are subject to change and may differ from one location to another; the generator of the waste is responsible for proper waste disposal.

Section 14. Transport Information

DOT Classification

Class 3: Flammable liquid.

Flammable liquids N.O.S. (Isopropyl alcohol)

UN1993

II

Marine Pollutant

Not available.

Hazardous Substances Reportable Quantity (Kg)

Not available.

Special Provisions for Transport

Section 15. Regulatory Information

U.S. Federal Regulations

SARA 302/304 emergency planning and notification: No products were found.

CERCLA: Hazardous substances: Ethylene glycol: 5000 lbs. (2268 kg);

SARA 313 toxic chemical notification and release reporting: Ethylene glycol 85%; Isopropyl alcohol 5%

TSCA 8(a) PAIR: Isopropyl alcohol

TSCA 8(a) IUR: Isopropyl alcohol

TSCA 8(b) inventory: Ethylene glycol; Water; Isopropyl alcohol

TSCA 12(b) one time export: Isopropyl alcohol

SARA 311/312 MSDS distribution - chemical inventory - hazard

identification: Ethylene glycol: immediate health hazard, delayed

health hazard; Isopropyl alcohol:

fire, immediate health hazard, delayed health hazard

State Regulations

New York acutely hazardous substances: Ethylene glycol
Rhode Island RTK hazardous substances: Ethylene glycol; Isopropyl alcohol
Pennsylvania RTK: Ethylene glycol: (environmental hazard); Isopropyl alcohol: (environmental hazard)
Florida: Ethylene glycol; Isopropyl alcohol
Minnesota: Ethylene glycol; Isopropyl alcohol
Massachusetts RTK: Ethylene glycol; Isopropyl alcohol
New Jersey: Ethylene glycol; Isopropyl alcohol
New Jersey spill list: Ethylene glycol; Isopropyl alcohol

California prop. 65: No products were found.

Section 16. Other Information

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

Health 2

Flammability 3

Reactivity 0

Specific

Hazard

Other Special Considerations

Not available.

This mixture has not been tested as a whole, the data presented is based on the properties of the individual components.

For Additional Information:

Contact: MSDS Coordinator - Univar USA

During business hours, Pacific Time - (425) 889-3400

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END OF MSDS