

HMIS (USA)

Material Safety Data Sheet

Health Hazard 3
Fire Hazard 3
Reactivity 0

MSDS No. 000000000122
Validation Date: 05/14/1999
Version: 1.5

Section 1: Identification

Product Name: Midland Air Brake Antifreeze 31000 - 31001 - 31002 - 31003

Chemical Name: Methanol alcohol

CAS Number: 67-56-1

Synonyms: Methanol; Methyl alcohol;
Wood alcohol

Chemical Family: Aliphatic Alcohol

**Manufacturer/
Distributor** Haldex Brake Systems
10707 NW Airworld Drive
Kansas City, MO 64153
Telephone: 800-643-2374

Telephone Numbers:
Emergency:
CHEMTREC 800-424-9300

Section 2: Composition

Concentration by
Wt./Mol%

<u>Component Name:</u>	<u>Cas No.</u>	<u>OSHA</u> <u>PEL</u>	<u>OSHA</u> <u>STEL</u>	<u>ACGIH</u> <u>TLV</u>	<u>ACGIH</u> <u>STEL</u>	<u>Carcinogenic</u> <u>Listing*</u>	<u>Avg.</u>	<u>Min.</u>	<u>Max.</u>
Methanol	67-56-1	200 ppm	N/L	200 ppm	250 ppm	N/L		85	95

* 1 = OSHA 2 = IARC 3= NTP 4 = Others N/L = Not Listed See Section 11 for more information

Section 3: Hazard Identification

Emergency Overview

This material is HAZARDOUS by OSHA Hazard Communications definition.

Signal Word:

DANGER!

Physical and Health Hazards:

Vapors can travel to a source of ignition and flash back. Material can burn with little or no visible flame. FLAMMABLE LIQUID - TOXIC

Physical State:

Liquid

Color:

Colorless

Odor:

Alcohol like

Odor Threshold:

160 ppm

Potential Health Effects

Routes of Exposure:

Ingestion, Skin Contact, Inhalation

Signs and Symptoms of Acute Exposure:

- *Methanol*

Skin Contact:

Inhalation:

Eye Contact:

Ingestion:

Chronic Health Effects Summary:

- *Methanol*

Irritation to eyes, skin, and respiratory system. May cause drowsiness and dizziness. Methanol, if ingested or inhaled may cause metabolic acidosis, blindness or death. Skin exposure to methanol may also cause significant toxicity.

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Skin exposure to methanol may also cause significant toxicity.

Irritating to the respiratory system. May cause drowsiness and dizziness.

Mild eye irritant, can cause conjunctivitis, and/or corneal opacity.

Get medical attention immediately.

Methanol is slowly eliminated from the body, therefore it can have cumulative toxicity effects with repeated exposures.

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**Conditions
Aggravated by Exposure:**

Persons with existing skin, kidney, liver or eye disorders may be at increased risk when exposed to methanol. Persons with existing skin, kidney, liver or eye disorders may be at increased risk when exposed to methanol.

Section 4: First Aid Measures

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 3 of this MSDS.

- Inhalation:** Move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. When breathing is difficult, properly trained personnel may assist the affected person by administering oxygen. Keep the affected person warm and at rest. Get medical attention immediately.
- Eye Contact:** 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.
- Skin Contact:** Immediately remove excess chemical and contaminated clothing; thoroughly wash contaminated skin with mild soap and water. If irritation persists after washing, seek medical attention. Thoroughly clean contaminated clothing before reuse; discard contaminated leather goods (gloves, shoes, belts, wallets, etc.).
- Ingestion:** Get medical attention immediately.

Section 5: Fire Fighting Measures

NFPA: Health 1; Fire 3; Reactivity 0; Other

Flammability Classification:	Class IB Flammable Liquid.
Flash Point / Method:	11°C (51.8°F) OPEN CUP
Auto-Ignition Temperature:	385°C (725°F)
Flammable Limits:	LOWER: 6% (V) UPPER: 36% (V)
Hazardous Combustion Products:	Partial oxidation of methanol can lead to the formation of formaldehyde, carbon monoxide, and formic acid.
Special Conditions to Avoid:	Methanol is TOXIC. Avoid all exposure, especially ingestion. Vapors may travel long distances along the ground before reaching a source of ignition and flashing back.
Extinguishing Media:	SMALL FIRE: Use DRY chemicals, CO ₂ , water spray or alcohol-resistant foam. LARGE FIRE: Use water spray, water fog or alcohol-resistant foam.
Fire Fighting Instructions:	Protective Equipment/Clothing: Wear a NIOSH approved positive pressure self-contained breathing apparatus and firefighter turnout gear. Instructions: Evacuate area and fight from a maximum distance or use unmanned hose holders or monitor nozzles. Heat may generate flammable or explosive vapors; disperse with water spray or cover pooling liquid with foam. Containers can build up pressure if exposed to heat; cool with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of vessel. ALWAYS stay away from the ends of "bullet" tanks.

Section 6: Accidental Release Measures

Release Response: Eliminate all sources of ignition. Stop leak if without risk. Use water spray or alcohol-resistant foam to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Depending on the size and nature of the release, all responders may need to be HAZWOPER trained and local, state and federal authorities may need to be notified.

Reportable Quantities: See Section 15: Regulatory Information.

Section 7: Handling and Storage

Handling: 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.

Storage: Keep containers tightly closed and in a well-ventilated place. Store away from oxidizers and other combustible material by a distance of at least 20 feet. Metal containers used to store this material should be grounded.

Section 8: Exposure Controls and Personal Protection

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

Personal Protection

Inhalation: A respiratory protection program that meets OSHA's 29 CFR 1910.134 or ANSI Z88.2 requirements must be followed whenever workplace conditions warrant respirator use.

Skin: Appropriate protective clothing should be worn to prevent skin contact.

Eye: Safety glasses are recommended for normal use. Goggles and face shield should be used if there is the chance of liquid splash or spray.

Section 9: Physical and Chemical Properties

Boiling Point/Range:	64.7°C (148.5°F)	pH:	Not applicable.
Vapor Pressure:	100 mm Hg @21.2°C(70°F)	Viscosity:	
Specific Gravity:	Solid/Liquid: 0.81 (water=1) Vapor: 1.1 (air = 1)	Water Solubility:	Easily soluble in cold water.
Octanol/Water Partition Coefficient in Kow:	0.77	Melting/Freezing Point:	-97.8°C (-144°F)
		Evaporation Rate:	2.1 (Butyl acetate=1)

Section 10: Stability and Reactivity

Chemical Stability: The product is stable.

Conditions to Avoid.	Avoid contact with strong oxidizers, excessive heat, sparks or open flame.
Incompatibility with:	Can react vigorously with oxidizing materials. A number of hazardous reactions have been reported (NFPA, 1986) in cases where methanol is present in combination with: chromic anhydride, phosphorous trioxide, lead perchlorate, perchloric acid and ethy
Hazardous Products of Decomposition:	Partial oxidation of methanol can lead to the formation of formaldehyde carbon monoxide, and formic acid.
Hazardous Polymerization:	Will not occur.
Reactions with Air and Water:	Does not react with air, water or other common materials. Does not react with air, water or other common materials.

Section 11: Toxicological Information

Summary: Methanol is a human poison. It can produce severe metabolic acidosis, blindness, and death. The onset of symptoms may be delayed for 18 to 24 hours after ingestion. Toxicity is related to the degree of acidosis produced thus the time interval between exp

Component

Methanol

		5628			
<u>LD50</u>	Rat	MG/KG	<u>LC50</u>	Rat	64000 MG/KG
<u>(ORAL):</u>	Mouse	7300	<u>(INHL):</u>		
		MG/KG			

SKIN EFFECTS:

Methanol is a skin irritant. Absorption of methanol through the skin may add significantly to the overall toxic effect. Standard Draize skin test (rabbit) - Dose: 20mg/24 hrs. Reaction: Moderate

EYE
EFFECTS:

Direct contact of methanol with the eye produces a mild, reversible irritation, assuming treatment is initiated promptly. Transient visual abnormalities that develop during acute methanol intoxication may include blurred or double vision, changes in color perception, constricted visual fields, spots before the eyes, and sharply reduced visual acuity. Standard Draize eye test (rabbit) - Dose: 40 mg. Reaction: Moderate Dose: 100 mg/24 hrs Reaction: Moderate

ACUTE ORAL EFFECTS: Most of the literature on methanol poisoning involves accidental or intentional ingestion. Ingestion of as little as 15 ml can cause blindness, and 30 to 250 ml can be fatal producing severe metabolic acidosis, blindness, and death. The range of toxicity for methanol is extremely variable. Blindness has followed ingestion of about 4 milliliters of absolute methanol.

ACUTE INHALATION EFFECTS: Inhalation of methanol is the major route of exposure in the occupational environment causing toxicity.

SUBCHRONIC EFFECTS: No conclusive data found in literature search.

CHRONIC EFFECTS / CARCINOGENICITY: No conclusive data found in literature search.

REPRODUCTIVE / DEVELOPMENTAL EFFECTS: Methanol Subchronic Inhalation studies with Laboratory animals (conducted at approximately 30% of the LC50) has shown specific abnormalities to the cardiovascular, musculoskeletal and urogenital systems of the developing fetus. Reported effects also incl

Section 12: Ecological Information

Ecotoxicity:

When released to the environment, this product will volatilize rapidly. No long term damage to the environment is expected. Operators of water intakes in the vicinity should be notified of releases to water.

Environmental Fate: Methanol is expected to be biodegradable in soil. Its miscibility in water and log KOW (-0.77) suggests high mobility in soil. Based on a vapor pressure of 92mm Hg at 20 deg evaporation from dry surfaces can be expected to occur. The important environmental fate process for methanol in water is biodegradation. Methanol is expected to exist almost entirely in the vapor-phase in the ambient atmosphere, based on a vapor pressure of 92 mm Hg at 20 deg C. It is degraded by reaction with photochemically produced hydroxyl radicals with an estimated half-life of 17.8 days in a typical ambient atmosphere. Because of methanol's water solubility, rain would be expected to physically remove some from the air; the detection of methanol in a thunder storm water tends to confirm this supposition.

Bioaccumulation: Not expected to occur.

Section 13: Disposal Considerations

Disposal should be conducted through a facility equipped with and operating an air emission control device in accordance with requirements of applicable Clean Air Act regulations.

Section 14: Transport Information

Proper Shipping Name: Methanol, or Methyl alcohol

DOT Hazard Class: 3

UN/NA ID: UN 1230 Marine Pollutant: No.

Packing Group: PGII NAER Guidebook: 131

Labels: Flammable liquid. DOT Status: A U.S. Department
Poison. of Transportation
regulated material.

Section 15: Regulatory Information

TSCA: All components of this product are listed on the TSCA8(b) inventory. If identified components of this product are listed under the TSCA12(b) Export Notification rule, they will be listed below.

<u>TSCA 12(b) Component</u>	<u>Listed under TSCA Section</u>
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SARA - Section 313
Emissions Reporting:

The following chemicals in this product exceed the de minimus reporting level established by SARA Title III, Section 313 and 40 CFR 372.

<u>Component</u>	<u>Reporting Threshold</u>
Methanol	1.0%

SARA - Section
311/312:

This product is classified into the following hazard categories:

Immediate Health Delayed Health Fire

CERCLA Hazardous
Substances and their
Reportable Quantities:

<u>Component</u>	<u>Reportable Quantity</u>
Methanol	5,000 LBS (270KG)

California Prop. 65:

Proposition 65 requires manufacturers or distributors of consumer products into the State of California to provide a warning statement if the product contains ingredients for which the State has found to cause cancer, birth defects or other reproductive harm. If this product contains an ingredient listed by the State of California to cause cancer or reproductive toxicity it will be listed below.

Section 16: Other Information

Disclaimer of
Liability:

The information on this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. 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 handling, storage, use, or disposal of this product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

Latest Revision(s):

Conversion to SAP template.

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