



## POTASSIUM METHOXIDE, 3.4M in methanol (24-26%)

Safety Data Sheet AKP646

Date of issue: 01/15/2015

Revision date: 04/03/2015

Version: 1.1

### SECTION 1: Identification

#### 1.1. Identification

Product name	: POTASSIUM METHOXIDE, 3.4M in methanol (24-26%)
Product code	: AKP646
Product form	: Mixture
Physical state	: Liquid
Formula	: CH <sub>3</sub> KO
Synonyms	: POTASSIUM METHYLATE
Chemical family	: METAL ALCOHOLATE

#### 1.2. Recommended use and restrictions on use

Recommended use	: Chemical intermediate
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#### 1.3. Supplier

##### GELEST, INC.

11 East Steel Road  
Morrisville, PA 19067  
USA

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

[info@gelest.com](mailto:info@gelest.com) - [www.gelest.com](http://www.gelest.com)

#### 1.4. Emergency telephone number

Emergency number	: CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)
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### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Flammable liquids Category 2	H225 Highly flammable liquid and vapor
Acute toxicity (oral) Category 3	H301 Toxic if swallowed
Acute toxicity (dermal) Category 3	H311 Toxic in contact with skin
Acute toxicity (inhalation:vapor) Category 3	H331 Toxic if inhaled
Skin corrosion/irritation Category 1B	H314 Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	H318 Causes serious eye damage
Specific target organ toxicity (single exposure) Category 1	H370 Causes damage to organs
Specific target organ toxicity (single exposure) Category 3	H336 May cause drowsiness or dizziness

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Danger

Hazard statements (GHS US)

: H225 - Highly flammable liquid and vapor  
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled  
H314 - Causes severe skin burns and eye damage  
H318 - Causes serious eye damage  
H336 - May cause drowsiness or dizziness  
H370 - Causes damage to organs

Precautionary statements (GHS US)

: P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P210 - Keep away from heat, open flames, sparks. - No smoking.  
P240 - Ground/Bond container and receiving equipment  
P241 - Use explosion-proof electrical equipment  
P242 - Use only non-sparking tools.  
P243 - Take precautionary measures against static discharge.  
P260 - Do not breathe vapors.  
P264 - Wash hands thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P271 - Use only outdoors or in a well-ventilated area.  
P301+P310 - If swallowed: Immediately call a POISON CENTER  
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting  
P302+P352 - If on skin: Wash with plenty of water

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P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing. rinse skin with water/shower  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER  
P361 - Take off immediately all contaminated clothing.  
P363 - Wash contaminated clothing before reuse.  
P370+P378 - In case of fire: Use dry chemical, dry soda ash, alcohol-resistant foam to extinguish.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 - Keep in a cool place  
P405 - Store locked up.  
P501 - Dispose of contents/container to licensed waste disposal facility.

### 2.3. Hazards not otherwise classified (HNOC)

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Methanol	(CAS-No.) 67-56-1	> 75	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 1, H370 STOT SE 3, H336
Potassium methoxide	(CAS-No.) 865-33-8	> 25	Self-heat. 1, H251 Skin Corr. 1B, H314 Eye Dam. 1, H318

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Wash with plenty of soap and water. If skin irritation or rash occurs: Get immediate medical advice/attention.
First-aid measures after eye contact	: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Call a poison center/doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	: May cause drowsiness or dizziness. May cause respiratory irritation. Inhalation will cause sneezing, irritation and burns.
Symptoms/effects after skin contact	: Causes skin irritation. Worker will notice a slippery feeling on washing.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms	: On contact with water this compound liberates methanol which is known to have a chronic effect on the central nervous system. Methanol may effect the central nervous system resulting in persistent or recurring headaches or impaired vision.

### 4.3. Immediate medical attention and special treatment, if necessary

NOTE TO PHYSICIAN: The combination of visual disturbances, metabolic acidosis and formic acid in urine is evidence of methanol poisoning. The therapeutic intravenous administration of ethanol (10 mls/hour) allows methanol to be preferentially oxidized and reduces production of methanol metabolites. Acidosis must be treated with intravenous administration of sodium bicarbonate and methanol elimination may be increased by hemodialysis, as indicated. Treatment should be based on blood methanol levels and acid-base balance.

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### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Dry chemical. Dry soda ash. Alcohol-resistant foam.

#### 5.2. Specific hazards arising from the chemical

Fire hazard : Highly flammable liquid and vapor. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

Explosion hazard : May form flammable/explosive vapor-air mixture.

#### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Protect against caustic dust, smoke and water. Exercise caution when fighting any chemical fire.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear pressure demand self-contained breathing apparatus with full facepiece and full protective clothing. Avoid all eye and skin contact and do not breathe vapor and mist.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Eliminate every possible source of ignition. Use special care to avoid static electric charges.

##### 6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal. Use only non-sparking tools.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.

Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapor and mist. Provide good ventilation in process area to prevent accumulation of vapors. Use only in well ventilated areas. Take precautionary measures against static discharge. Use only non-sparking tools.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

#### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment.

Storage conditions : Keep container tightly closed. Store under dry nitrogen or argon in sealed containers.

Incompatible materials : Acids. Alcohols. Carbon dioxide. Esters. Halogens. Ketones. Moist air. Water.

Storage area : Store in a well-ventilated place. Store away from heat.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Methanol (67-56-1)		
ACGIH	ACGIH TWA (ppm)	200 ppm
ACGIH	ACGIH STEL (ppm)	250 ppm
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	260 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	200 ppm
IDLH	US IDLH (ppm)	6000 ppm
NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	260 mg/m <sup>3</sup>
NIOSH	NIOSH REL (TWA) (ppm)	200 ppm
NIOSH	NIOSH REL (STEL) (mg/m <sup>3</sup> )	325 mg/m <sup>3</sup>

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Methanol (67-56-1)		
NIOSH	NIOSH REL (STEL) (ppm)	250 ppm

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Provide local exhaust or general room ventilation.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

#### Hand protection:

Neoprene or nitrile rubber gloves

#### Eye protection:

Chemical goggles or face shield. Contact lenses should not be worn

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

NIOSH-certified caustic organic vapor (black cartridge) respirator.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear liquid. Slightly viscous.
Molecular mass	: 70.12 g/mol
Color	: Amber.
Odor	: No data available
Odor threshold	: No data available
Refractive index	: 1.37
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: < 0 °C
Boiling point	: 65 °C (initial, methanol)
Flash point	: 11 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapor
Vapor pressure	: No data available
Relative vapor density at 20 °C	: 1.1 (methanol)
Relative density	: 0.95
% Volatiles	: < 70 %
Solubility	: Reacts with water. Dissolves.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: 6 - 36.5 vol % (lower; upper)

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

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### 10.2. Chemical stability

Stable under nitrogen or argon in sealed containers.

### 10.3. Possibility of hazardous reactions

Reacts slowly with moisture and carbon dioxide in air. Material decomposes slowly in contact with moist air and rapidly in contact with water.

### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

### 10.5. Incompatible materials

Acids. Alcohols. Carbon dioxide. Esters. Halogens. Ketones. Moist air. Water.

### 10.6. Hazardous decomposition products

Caustic organic vapors. Methanol. Potassium hydroxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

#### POTASSIUM METHOXIDE, 3.4M in methanol (24-26%) (865-33-8)

ATE US (oral)	133.333 mg/kg body weight
ATE US (dermal)	400 mg/kg body weight
ATE US (vapors)	4 mg/l/4h

#### Methanol (67-56-1)

LC50 inhalation rat (ppm)	22500 ppm (Exposure time: 8 h)
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (vapors)	3 mg/l/4h

Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Causes damage to organs. May cause drowsiness or dizziness.
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May cause drowsiness or dizziness. May cause respiratory irritation. Inhalation will cause sneezing, irritation and burns.
Symptoms/effects after skin contact	: Causes skin irritation. Worker will notice a slippery feeling on washing.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms	: On contact with water this compound liberates methanol which is known to have a chronic effect on the central nervous system. Methanol may effect the central nervous system resulting in persistent or recurring headaches or impaired vision.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Methanol (67-56-1)

LC50 fish 1	28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

#### Methanol (67-56-1)

BCF fish 1	< 10
Log Pow	-0.77



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### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Other adverse effects : This substance may be hazardous to the environment.  
Effect on the ozone layer : No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.  
Additional information : Handle empty containers with care because residual vapors are flammable.  
Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

### 14.1. UN number

UN-No.(DOT) : 2924  
DOT NA no. : UN2924

### 14.2. UN proper shipping name

Transport document description : UN2924 Flammable liquids, corrosive, n.o.s. (POTASSIUM METHOXIDE, 3.4M in methanol (24-26%), 3 (8), II)  
Proper Shipping Name (DOT) : Flammable liquids, corrosive, n.o.s.  
(POTASSIUM METHOXIDE, 3.4M in methanol (24-26%))  
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120  
Packing group (DOT) : II - Medium Danger  
Hazard labels (DOT) : 3 - Flammable liquid  
8 - Corrosive



DOT Packaging Non Bulk (49 CFR 173.xxx) : 202  
DOT Packaging Bulk (49 CFR 173.xxx) : 243  
DOT Packaging Exceptions (49 CFR 173.xxx) : 150  
DOT Symbols : G - Identifies PSN requiring a technical name

### 14.3. Additional information

Emergency Response Guide (ERG) Number : 132  
Other information : No supplementary information available.

### Transport by sea

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.  
DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

### Air transport

DOT Quantity Limitations Passenger aircraft/rail : 1 L  
(49 CFR 173.27)  
DOT Quantity Limitations Cargo aircraft only (49 : 5 L  
CFR 175.75)

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

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### Methanol (67-56-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting 1 %

### Potassium methoxide (865-33-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

## 15.2. International regulations

### CANADA

#### Methanol (67-56-1)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification Class B Division 2 - Flammable Liquid  
Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects  
Class D Division 2 Subdivision A - Very toxic material causing other toxic effects  
Class D Division 2 Subdivision B - Toxic material causing other toxic effects

#### Potassium methoxide (865-33-8)

Listed on the Canadian NDSL (Non-Domestic Substances List)

## EU-Regulations

#### Methanol (67-56-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

#### Potassium methoxide (865-33-8)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

## National regulations

#### Methanol (67-56-1)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on the Korean ECL (Existing Chemicals List)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Japanese Poisonous and Deleterious Substances Control Law  
Listed on the Canadian IDL (Ingredient Disclosure List)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on CICR (Turkish Inventory and Control of Chemicals)

#### Potassium methoxide (865-33-8)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on the Japanese ISHL (Industrial Safety and Health Law)  
Listed on the Korean ECL (Existing Chemicals List)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

## 15.3. US State regulations

**WARNING:** This product can expose you to Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

#### Methanol (67-56-1)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	No	No		

#### Methanol (67-56-1)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

Full text of H-phrases::

H225 Highly flammable liquid and vapor

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H251	Self-heating; may catch fire
H301	Toxic if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H331	Toxic if inhaled
H336	May cause drowsiness or dizziness
H370	Causes damage to organs

Abbreviations and acronyms : Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor.

### Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 4 Severe Hazard - Flammable gases, or very volatile flammable liquids with flash points below 73 F, and boiling points below 100 F. Materials may ignite spontaneously with air. (Class IA)

Physical : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Prepared by safety and environmental affairs.

Date of issue: 01/15/2015      Revision date: 04/03/2015      Version: 1.1

SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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