

SAFETY DATA SHEET

Date Printed: 04/30/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifier: Calcium 2-Methoxyethoxide

Product Code: CA-METOX-01-LIQ

CAS Number: 28099-67-4

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements
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SECTION 2. HAZARDS IDENTIFICATION

Classification (GHS-US) Flam. Liq. 3 H226 Acute Tox. 4 (Dermal) H312 Acute Tox. 4
(Inhalation:dust,mist) H332 Skin Irrit. 2 H315 Eye Irrit. 2A H319 Repr. 1B H360 Full text of H-phrases:
see section 16



Signal word (GHS-US) : Danger Hazard statements (GHS-US) : H226 - Flammable liquid and vapor
H312+H332 - Harmful in contact with skin or if inhaled H315 - Causes skin irritation H319 - Causes
serious eye irritation

H360 - May damage fertility or the unborn child Precautionary statements (GHS-US) : P201 - Obtain
special instructions before use P202 - Do not handle until all safety precautions have been read and
understood P280 - Wear protective gloves/protective clothing/eye protection/face protection P210 -
Keep away from heat, open flames, sparks. - No smoking P233 - Keep container tightly closed 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
P261 - Avoid breathing vapors P264 - Wash hands thoroughly after handling P271 - Use only
outdoors or in a well-ventilated area P303+P361+P353 - If on skin (or hair): take off immediately all
contaminated clothing. rinse skin with water/shower P332+P313 - If skin irritation occurs: Get medical
advice/attention 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 P337+P313 - If eye irritation persists: Get medical advice/attention P308+P313 - If exposed or concerned: Get medical advice/attention P362+P364 - Take off contaminated clothing and wash it before reuse P370+P378 - In case of fire: Use water spray, foam, carbon dioxide, dry chemical to extinguish P403+P235 - Keep in a cool place P405 - Store locked up P501 - Dispose of contents/container to licensed waste disposal facility. Other hazards No additional information available Unknown acute toxicity (GHS-US) No data available

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance N/A Mixture Name Product identifier % Classification (GHS-US)

2-Methoxyethanol Cas: 109-86-4 > 75 Flam. Liq 3 H226

Acute Tox.4(Dermal), H312 Acute Tox.4(Inhalation), H332 Repr. 1B, H360 Calcium methoxyethoxide

Cas: 28099-67-4 < 25 Skin Irrit. 2, H315 Eye Irrit. 2A, H319

SECTION 4. FIRST AID MEASURES

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 If inhaled: : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician. First-aid measures In case of skin contact: : Wash with plenty of soap and water. Get medical advice/attention. First-aid measures In case of eye contact:

: Rinse cautiously with water for several 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. Get medical advice/attention. Most important symptoms and effects, both acute and delayed:

Symptoms/injuries If inhaled: : May cause irritation to the respiratory tract. Symptoms/injuries In case of skin contact: : Causes skin irritation. Symptoms/injuries In case of eye contact:

: Causes serious eye irritation. Symptoms/injuries after ingestion : May be harmful if swallowed.

Chronic symptoms : Methoxyethanol, a hydrolysis product, is known to have a chronic effect on the central nervous system. Indication of any immediate medical attention and special treatment needed: No additional information available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media Suitable extinguishing media : Water spray. Foam. Carbon dioxide. Dry chemical. Special hazards arising from the substance or mixture Fire hazard : Flammable liquid and vapor.

Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame. Advice for firefighters Firefighting instructions : Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire. Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures General measures : Remove ignition sources. Use special care to avoid static electric charges. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel. For emergency responders Protective

equipment : Equip cleanup crew with proper protection. Environmental precautions Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. 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. Reference to other sections See Heading 8. Exposure controls and personal protection

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Precautions for safe handling :

Avoid all eye and skin contact and do not breathe vapor and mist. Containers must be properly grounded before beginning transfer. Provide good ventilation in process area to prevent accumulation of vapors. Take precautionary measures against static discharge. Use only non- sparking tools.

Hygiene measures :

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Technical measures :

Ground/bond container and receiving equipment.

Storage conditions :

Keep container tightly closed.

Incompatible materials :

Moist air. Oxidizing agent. Water.

Storage area :

Store in a well-ventilated place. Store away from heat.

Specific end use(s)

No additional information available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

2-Methoxyethanol (109-86-4)

USA ACGIH ACGIH TWA (ppm) 0.1 ppm

USA NIOSH NIOSH REL (TWA) (mg/m³) 0.3 mg/m³

USA NIOSH NIOSH REL (TWA) (ppm) 0.1 ppm

USA OSHA OSHA PEL (TWA) (mg/m³) 80 mg/m³

USA OSHA OSHA PEL (TWA) (ppm) 25 ppm

USA IDLH US IDLH (ppm) 200 ppm

Exposure controls

Appropriate engineering controls :

Provide local exhaust or general room ventilation.

Personal protective equipment :

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

Hand protection :

Neoprene or nitrile rubber gloves.

Eye protection :

Chemical goggles. Contact lenses should not be worn.

Skin and body protection :

Wear suitable protective clothing.

Respiratory protection :

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified organic vapor (black cartridge) respirator.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state :

Liquid

Appearance :

Liquid.

Molecular mass :

190.25 g/mol

Color :

Straw. Dark.

Odor :

Mild.

Odor threshold :

No data available

Refractive index :

No data available

pH :

No data available

Relative evaporation rate (butyl acetate=1) :

No data available

Melting point :

No data available

Freezing point :

< 0 °C

Boiling point :

124 °C (initial)

Flash point :

39 °C

Auto-ignition temperature :

No data available

Decomposition temperature :

No data available

Flammability (solid, gas) :

Flammable liquid and vapor

Vapor pressure :

6.2 mm Hg @ 20°C (methoxyethanol)

Relative vapor density at 20 °C :

2.5 - 2.7

Relative density :

1.01

VOC content :

> 75 %

Solubility :

Reacts with water.

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
Explosive limits :
No data available
Other Information
No additional information available

SECTION 10. STABILITY AND REACTIVITY

Reactivity
No additional information available
Chemical stability
Stable.
Possibility of hazardous reactions
No additional information available
Conditions to avoid Heat. Sparks.
Open flame.
Incompatible materials
Moist air. Oxidizing agent. Water.
Hazardous decomposition products
Organic acid vapors.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity :
Dermal: Harmful in contact with skin. Inhalation:dust,mist: Harmful if inhaled.
CALCIUM METHOXYETHOXIDE, 20% in methoxyethanol (28099-67-4)
ATE US (dermal) 1706.667 mg/kg body weight
ATE US (dust, mist) 2.000 mg/l/4h
2-Methoxyethanol (109-86-4)
LD50 oral rat 2370 mg/kg
LD50 dermal rabbit 1280 mg/kg
LC50 inhalation rat (ppm) 1478 ppm (Exposure time: 7 h)
ATE US (oral) 2370.000 mg/kg body weight
ATE US (dermal) 1280.000 mg/kg body weight
ATE US (gases) 4500.000 ppmV/4h
ATE US (vapors) 11.000 mg/l/4h
ATE US (dust, mist) 1.500 mg/l/4h
Skin corrosion/irritation :
Causes skin irritation.
Serious eye damage/irritation :
Causes serious eye irritation.
Respiratory or skin sensitization :
Not classified

Germ cell mutagenicity :
Not classified
2-Methoxyethanol (109-86-4)
Carcinogenicity :
Not classified
Reproductive toxicity :
May damage fertility or the unborn child.
Specific target organ toxicity (single exposure) :
Not classified
Specific target organ toxicity (repeated exposure) :
Not classified
Aspiration hazard :
Not classified
Symptoms/injuries If inhaled: :
May cause irritation to the respiratory tract.
Symptoms/injuries In case of skin contact: :
Causes skin irritation.
Symptoms/injuries In case of eye contact:
:
Causes serious eye irritation.
Symptoms/injuries after ingestion :
May be harmful if swallowed.
Chronic symptoms :
Methoxyethanol, a hydrolysis product, is known to have a chronic effect on the central nervous system.
Reason for classification :
Expert judgment

SECTION 12. ECOLOGICAL INFORMATION

Toxicity
2-Methoxyethanol (109-86-4)
LC50 fish 1 10000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
LC50 fish 2 9650 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static]) Persistence and degradability
No additional information available
Bioaccumulative potential
2-Methoxyethanol (109-86-4)
Log Pow -0.85
Mobility in soil
No additional information available
Other adverse effects
Effect on ozone layer :
No additional information available
Effect on the global warming :
No known ecological damage caused by this product.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Waste disposal recommendations :

Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.

Ecology - waste materials :

Avoid release to the environment.

SECTION 14. EXPOSURE CONTROLS/PERSONAL PROTECTION

UN number UN-No.(DOT) :

1993

DOT NA no.

UN1993

UN proper shipping name Proper Shipping Name (DOT) :

Flammable liquids, n.o.s. (CALCIUM METHOXYETHOXIDE, 20% in methoxyethanol) Department of Transportation (DOT) Hazard Classes :

3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Hazard labels (DOT) :

3 - Flammable liquid

DOT Symbols :

G - Identifies PSN requiring a technical name

Packing group (DOT) :

III - Minor Danger

DOT Packaging Exceptions (49 CFR 173.xxx) :

150

DOT Packaging Non Bulk (49 CFR 173.xxx) :

203

DOT Packaging Bulk (49 CFR 173.xxx) :

242

Additional information

Other information :

No supplementary information available.

Transport by sea

DOT Vessel Stowage Location :

A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) :

60 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) :

220 L

SECTION 15. REGULATORY INFORMATION

US Federal regulations

2-Methoxyethanol (109-86-4)

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

Listed on United States SARA Section 313

EPA TSCA Regulatory Flag

S - S - indicates a substance that is identified in a proposed or final Significant New Uses Rule.

SARA Section 313 - Emission Reporting

1.0 %

Calcium methoxyethoxide (28099-67-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
International regulations
2-Methoxyethanol (109-86-4)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
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 Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the Canadian IDL (Ingredient Disclosure List)
Calcium methoxyethoxide (28099-67-4)
Listed on the Canadian NDSL (Non-Domestic Substances List)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
US State regulations
CALCIUM METHOXYETHOXIDE, 20% in methoxyethanol(28099-67-4)
U.S. - California - Proposition 65 - Carcinogens List
No
U.S. - California - Proposition 65 - Developmental Toxicity
no
U.S. - California - Proposition 65 - Reproductive Toxicity - Female
No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male
No
2-Methoxyethanol (109-86-4)
U.S. - California - Proposition 65 - Carcinogens List
no
U.S. - California - Proposition 65 - Developmental Toxicity
Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Female
No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male
Yes
No significance risk level (NSRL)
Calcium methoxyethoxide (28099-67-4)
U.S. - California - Proposition 65 - Carcinogens List
No
U.S. - California - Proposition 65 - Developmental Toxicity
No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female
No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male
No
No significance risk level (NSRL)
2-Methoxyethanol (109-86-4)
U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)

U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations U.S. -
Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Illinois - Toxic Air Contaminants U.S. - Maine - Chemicals of High Concern
U.S. - Massachusetts - Allowable Ambient Limits (AALs)
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration -
Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration -
Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting
Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting
Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Threshold Effects Exposure Limits (TELEs)
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - Skin Designations
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - Skin Designations
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual U.S. -
New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - Water Quality - Ground Water Quality Criteria U.S. - New Jersey - Water Quality -
Practical Quantitation Levels (PQLs)
U.S. - New York - Occupational Exposure Limits - Skin Designations
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Oregon - Permissible Exposure Limits - Skin Designations
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual
U.S. - Tennessee - Occupational Exposure Limits - Skin Designations
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - Skin Designations
U.S. - Washington - Permissible Exposure Limits - Skin Designations
U.S. - Washington - Permissible Exposure Limits - STELEs
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet
to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet
to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet

or Greater

U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.