

Safety Data Sheet

Material Name: SAFETY-KLEEN METHYL ETHYL KETONE

SDS ID: 820204

*** Section 1 - Identification ***

Product Identifier

SAFETY-KLEEN METHYL ETHYL KETONE

Product Code

Not available

Synonyms

Butanone; 2-Butanone; Ethyl Methyl Ketone; Methyl Acetone; MEK

Recommended Use

Industrial Solvent.

Restrictions on Use

If this product is used in combination with other products, refer to the Safety Data Sheet for those products.

Manufacturer Information

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*** Section 2 - Hazard(s) Identification ***

Classification in Accordance with 29 CFR 1910.1200.

Flammable Liquids, Category 2
Skin Corrosion / Irritation, Category 2
Eye Damage / Irritation, Category 2A
Toxic to Reproduction, Category 2
Specific Target Organ Toxicity - Single Exposure, Category 1 (central nervous system)
Specific Target Organ Toxicity - Single Exposure, Category 3 (central nervous system and respiratory system)
Specific Target Organ Toxicity - Repeated Exposure, Category 1 (blood, central nervous system, peripheral nervous system, kidneys, and liver)

GHS LABEL ELEMENTS**Symbol(s)****Signal Word**

DANGER!

Hazard Statement(s)

Highly flammable liquid and vapor
Causes skin irritation
Causes serious eye irritation
Suspected of damaging fertility or the unborn child
Causes damage to central nervous system.
May cause respiratory irritation and drowsiness or dizziness.

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Causes damage to blood, central nervous system, peripheral nervous system, kidneys, and liver through prolonged or repeated exposure.

Precautionary Statement(s)

Prevention

Keep away from heat, sparks, open flame, and hot surfaces - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not eat, drink or smoke when using this product. Do not breathe vapor or mist. Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area.

Response

In case of fire: Use carbon dioxide, alcohol resistant foam, regular dry chemical, water spray, and water fog for extinction. IF exposed or concerned: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Storage

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Disposal

Dispose of in accordance with all applicable federal, state and local regulations.

Hazard(s) Not Otherwise Classified

None known.

*** Section 3 - Composition / Information on Ingredients ***

CAS	Component	Percent
78-93-3	Methyl ethyl ketone	99-100

*** Section 4 - First Aid Measures ***

Description of Necessary Measures

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion

IF SWALLOWED: Do NOT induce vomiting. Rinse mouth. If vomiting occurs, keep head lower than hips to help prevent aspiration. Call a poison control center or doctor immediately for treatment advice.

Most Important Symptoms/Effects

Acute

Severe eye irritation, respiratory tract irritation, skin irritation, central nervous system damage, central nervous system depression

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Delayed

Reproductive effects, blood damage, central nervous system damage, peripheral nerve damage, kidney damage, liver damage

Indication of Immediate Medical Attention and Special Treatment Needed, If Needed

Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident. Call 1-800-424-9300 for additional information.

*** Section 5 - Fire-Fighting Measures ***

Suitable Extinguishing Media

Carbon dioxide, regular foam, dry chemical, water spray, or water fog.

Unsuitable Extinguishing Media

Do not use high-pressure water streams.

Specific Hazards Arising from the Chemical

Highly flammable liquid and vapor Avoid friction, static electricity and sparks. Product may be sensitive to static discharge, which could result in fire or explosion. Vapors may form explosive mixture with air. Vapors are heavier than air and may travel along the ground to some distant source of ignition and flash back. Vapors may cause drowsiness and dizziness. Fire may produce irritating, poisonous and/or corrosive fumes. Runoff may create fire or explosion hazard. Containers may rupture or explode. Empty containers may contain product residue.

Hazardous Combustion Products

Decomposition and combustion materials may be toxic. Burning may produce carbon dioxide, carbon monoxide, and unidentified organic compounds.

Special Protective Equipment and Precautions for Firefighters

Wear full protective fire-fighting gear including self-contained breathing apparatus (SCBA) for protection against possible exposure.

Fire Fighting Measures

Keep storage containers cool with water spray. Move container from fire area if it can be done without risk. Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Stay upwind and keep out of low areas. Dike for later disposal.

*** Section 6 - Accidental Release Measures ***

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8. Avoid release to the environment.

Methods and Materials for Containment and Clean Up

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in **Section 8**. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. A vapor suppressing foam may be used to reduce vapors. Contain spill away from surface water and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean, sparkproof tool into a sealable container for disposal. Additionally, for large spills: Water spray may reduce vapor, but may not prevent ignition in closed spaces. Dike far ahead of liquid spill for collection and later disposal. There may be specific federal regulatory reporting requirements associated with spills, leaks, or releases of this product. Also see **Section 6**.

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*** Section 7 - Handling and Storage ***

Precautions for Safe Handling

Keep away from heat, sparks, or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean, sparkproof tools and explosion-proof equipment. When transferring product, metal containers, including trucks and tank cars, should be grounded and bonded. Do not breathe vapor or mist. Use in a well ventilated area. Avoid contact with eyes, skin, clothing, and shoes. Do not smoke while using this product. Wash thoroughly after handling.

Conditions for Safe Storage, Including Any Incompatibilities

Keep containers away from heat, flame, sparks, static electricity, or other sources of ignition. Keep container tightly closed. Keep cool. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Empty product containers may retain product residue and can be dangerous. Store in a well-ventilated place. Store locked up. See SECTION 14: TRANSPORT INFORMATION for packing group information.

Incompatibilities

Amines, ammonia, bases, isocyanates, oxidizing materials

*** Section 8 - Exposure Controls / Personal Protection ***

Component Exposure Limits

Methyl ethyl ketone	78-93-3
ACGIH:	200 ppm TWA; 300 ppm STEL
NIOSH:	200 ppm TWA ; 590 mg/m3 TWA; 300 ppm STEL ; 885 mg/m3 STEL 3000 ppm IDLH
OSHA (US):	200 ppm TWA ; 590 mg/m3 TWA

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

Methyl ethyl ketone (78-93-3)

2 mg/l Medium: urine Time: end of shift Parameter: MEK (nonspecific)

Appropriate Engineering Controls

Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

Individual Protective Measures, such as Personal Protective Equipment

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to regulatory requirements. The following PPE should be considered the minimum required Safety glasses, Gloves, Lab coat or apron.

Eyes/Face Protection

Safety glasses with side shields should be worn at a minimum. Additional protection like goggles, face shields, or respirators may be needed dependent upon anticipated use and concentrations of mists or vapors. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. Contact lens use is not recommended.

Glove Recommendations

Where skin contact is likely, wear gloves impervious to product; use of natural rubber (latex) or equivalent gloves is not recommended. To avoid prolonged or repeated contact where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, whole body suits, or other protective clothing.

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Respiratory Protection

Use NIOSH-certified, full-face respirators (self-contained breathing apparatus or air-line) respiratory protective equipment when concentration of vapor or mist exceeds applicable exposure limits. Protection provided by air purifying respirators is limited. Selection and use of respiratory protective equipment should be in accordance in the USA with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

*** Section 9 - Physical & Chemical Properties ***

Appearance/Odor : Clear, Colorless liquid	pH: Not applicable
Odor: Not available	Odor Threshold: Not available
Boiling Point: 176°F (80°C) @ 760 mmHg	Melting Point: -122.8°F (-86°C)
Solubility (H2O): Not available	Specific Gravity: 0.81 @ 20°C (68°F)
Density: Not available	Octanol/H2O Coeff.: Not available
Evaporation Rate: 2.7	Molecular Weight: 72.1
Auto Ignition Temperature: 759.2°F (404°C)	LFL: 1.4 VOL%
Flash Point: 15.8°F (-9°C)	UFL: 11.4 VOL%
Viscosity: Not available	Vapor Pressure: 78 mm Hg at 68°F (20°C)
Flammability Class: Flammable	Vapor Density: 2.5 (air = 1)
Decomposition Temperature: Not available	Freezing Point: -122.8°F (-86°C)

Other Property Information

No information is available.

*** Section 10 - Stability & Reactivity ***

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions

Will not polymerize under normal temperature and pressure conditions.

Conditions To Avoid

Avoid heat, sparks, flames, and other sources of ignition Avoid contact with incompatible materials.

Incompatible Materials

Amines, ammonia, bases, isocyanates, oxidizing materials

Hazardous Decomposition Products

Burning may produce carbon dioxide, carbon monoxide, and unidentified organic compounds.

*** Section 11 - Toxicological Information ***

Information on Likely Routes of Exposure

Inhalation

May cause irritation, central nervous system effects, nausea, headache, drowsiness, dizziness, disorientation.

Skin Contact

May cause skin irritation, Repeated exposure may cause skin dryness or cracking.

Eye Contact

Causes serious eye irritation.

Ingestion

May cause throat irritation, nausea, vomiting, diarrhea.

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

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Methyl ethyl ketone (78-93-3)

Oral LD50 Rat 2483 mg/kg; Dermal LD50 Rabbit 5000 mg/kg; Inhalation LC50 Rat 11700 ppm 4 h

Product Toxicity Data

Acute Toxicity Estimate

No data available.

Immediate Effects

Severe eye irritation, respiratory tract irritation, skin irritation, central nervous system damage, central nervous system depression

Delayed Effects

Reproductive Effects, blood damage, central nervous system damage, peripheral nerve damage, kidney damage, liver damage

Irritation/Corrosivity Data

Causes serious eye irritation, May cause respiratory tract irritation, May cause skin irritation.

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA.

Germ Cell Mutagenicity

No information available for the product.

Tumorigenic Data

No data available

Reproductive Toxicity

Suspected of damaging fertility or the unborn child

Specific Target Organ Toxicity - Single Exposure

Central nervous system, liver

Specific Target Organ Toxicity - Repeated Exposure

Blood, central nervous system, peripheral nerve system, kidneys, liver

Aspiration hazard

No information available for the product.

Medical Conditions Aggravated by Exposure

Eye disorders, skin disorders, central nervous system disorders, respiratory disorders

*** Section 12 - Ecological Information ***

Ecotoxicity

No information available for the product.

Component Analysis - Aquatic Toxicity

Methyl ethyl ketone	78-93-3
Fish:	LC50 96 h Pimephales promelas 3130 - 3320 mg/L [flow-through]
Invertebrate:	EC50 48 h Daphnia magna >520 mg/L IUCLID ; EC50 48 h Daphnia magna 5091 mg/L IUCLID ; EC50 48 h Daphnia magna 4025 - 6440 mg/L [Static] EPA

Persistence and Degradability

No information available for the product.

Bioaccumulative Potential

No information available for the product.

Mobility

Insoluble in water.

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Other Toxicity

No additional information is available.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of in accordance with all applicable federal, state and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal. Hazardous Waste Number(s): D001. Subject to disposal regulations: U.S. EPA 40 CFR 262. Based on available data, this information applies to the product as supplied to the user. Processing, use, or contamination by the user may change the waste code applicable to the disposal of this product.

Component Waste Numbers

Methyl ethyl ketone	Waste number U159 (Ignitable waste, Toxic waste)
RCRA:	200 mg/l regulatory level

*** Section 14 - Transport Information ***

US DOT Information:

Shipping Name: ETHYL METHYL KETONE

Hazard Class: 3

UN/NA #: UN1193

Packing Group: II

Required Label(s): 3

IATA Information:

Shipping Name: ETHYL METHYL KETONE

Hazard Class: 3

UN#: UN1193

Packing Group: II

Required Label(s): 3

IMDG Information:

Shipping Name: ETHYL METHYL KETONE

Hazard Class: 3

UN#: UN1193

Packing Group: II

Required Label(s): 3

TDG Information:

Shipping Name: ETHYL METHYL KETONE

Hazard Class: 3

UN#: UN1193

Packing Group: II

Required Label(s): 3

International Bulk Chemical Code

This material contains one or more of the following chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

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Methyl ethyl ketone	78-93-3
IBC Code:	Category Z

Further information

127: Reference. North American Emergency Response Guidebook

*** Section 15 - Regulatory Information ***

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Methyl ethyl ketone	78-93-3
CERCLA:	5000 lb final RQ ; 2270 kg final RQ

SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories

Flammable; Reproductive Toxicity; Skin Corrosion/Irritation; Serious Eye Damage/Eye Irritation; Specific Target Organ Toxicity

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Methyl ethyl ketone	78-93-3	Yes	Yes	Yes	Yes	Yes

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

Not listed under California Proposition 65.

Component Analysis - Inventory

Methyl ethyl ketone (78-93-3)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No
KR - REACH CCA		MX	NZ	PH	TH-TECI	TW	VN (Draft)	
Yes		Yes	Yes	Yes	Yes	Yes	Yes	

*** Section 16 - Other Information ***

NFPA Ratings: Health: 1 Fire: 3 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Revision Information

Regulatory review and update.

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Key/Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Disclaimer

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