

MATERIAL SAFETY DATA SHEET

MSDS
MEK Clear
Catalyst
Print Date
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MEK CLEAR CATALYST

SECTION 1 - IDENTIFICATION OF THE PRODUCT AND THE COMPANY

PRODUCT NAME	MEK Clear Catalyst	TELEPHONE	770-966-1331
FROM	SPR International Inc.	EMERGENCY 3E (24hr)	1-800-451-8346
ADDRESS	320 L Northpoint Pkwy Acwth, GA30102	CAS NO.	See Section II
CHEMICAL NAME	Methyl Ethyl Ketone Peroxide (MEKP)	CHEMICAL FORMULA	Mixture of many
CHEMICAL	Organic Peroxide		

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	%
Methyl Ethyl Ketone Peroxide	1338-23-4	34
Dimethyl Phthalate	131-11-3	43
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	20
Hydrogen Peroxide	7722-84-1	01
Methyl Ethyl Ketone	78-93-3	02
Water	7732-18-5	01

SECTION 3 - HAZARD IDENTIFICATION OF THE PREPARATION

PHYSICAL HAZARDS	Organic Peroxide. Decomposition
HEALTH HAZARDS	Severe Irritant
EXPOSURE LIMITS	The ACGIH Ceiling STEL is 1.5 mg/m ³ (0.2 ppm) for Methyl Ethyl Ketone Peroxide.
ROUTES OF EXPOSURE	
Skin Absorption	Severe skin irritant, causes redness, blistering, and edema.
Eye Contact	Eye contact causes severe corrosion and may cause blindness.
Ingestion	Human systemic effects by ingestion: changes in structure or function of esophagus, nausea, or vomiting, and other gastrointestinal effects.
Inhalation	Moderately toxic by inhalation.
EFFECTS OF OVER-EXPOSURE	Prolonged inhalation of vapors may cause mucous membrane irritation and vertigo. There are no known medical conditions, which are recognized as being aggravated by exposure.

SECTION 4 - FIRST-AID MEASURES

Skin	Immediately remove any contaminated clothing. Wash contaminated area thoroughly with soap and copious amounts of water for at least 15 minutes. If irritation or adverse symptoms develop seek medical attention.
Eyes	Remove any contact lenses at once. Flush eyes with water for at least 15 minutes. Ensure adequate flushing by separating the eyelids with fingers. If irritation or adverse symptoms develop seek medical attention.
Ingestion	Contact a physician, hospital or Poison Control Center at once. DO NOT INDUCE VOMITING.
Inhalation	Remove to fresh air, if coughing, breathing becomes labored, irritation develops or other symptoms develop, seek medical attention at once, even if symptoms develop several hours after the exposure.

SECTION 5 - FIRE-FIGHTING MEASURES

FLASH POINT: (C.O.C)	>200°F	FLAMMABLE LIMITS:	Unknown
FIRE EXTINGUISHER MEDIA			Water from a safe distance – preferably with a fog nozzle. In case of very small fires, other means such as carbon dioxide, foam or dry chemical extinguishers may be effective. Dry chemical combined with MEKP formulations may re-ignite. Light water additives may be particularly effective at extinguishing MEKP fires.
SPECIAL FIRE FIGHTING PROCEDURES			Firemen should be equipped with protective clothing and SCBA's. In case of fire near storage area, cool the containers with water spray. If dry chemical is used to

UNUSUAL FIRE AND EXPLOSION HAZARDS

extinguish an MEKP fire, the extinguished area must be thoroughly wetted down with water to prevent re-ignition.

The heat of decomposition of the peroxides adds to the heat of the fire. Dry chemical fire extinguishing agent may catalyze the decomposition.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN EVENT OF SPILL OR RELEASE

Dike to prevent runoff from entering drains, sewers, streams, etc. and transfer into containers. Spilled material should be swept up with an inert, moist diluent such as perlite, vermiculite, or sand, and placed in a clean polyethylene drum or a polyethylene pail. Wet drum or pail with water prior to sealing containers.

SECTION 7 - HANDLING AND STORAGE

HANDLING AND STORING

Keep containers closed to prevent contamination. Rotate stock using the oldest material first. The activity and stability of MEKP is directly related to the shipping and storage temperature history. Cool storage at 80°F or below is recommended for longer shelf life and stability. Prolonged storage at elevated temperatures of 100°F and higher will cause product degradation, gassing and potential container rupture which can result in a fire and/or explosion.

OTHER PRECAUTIONS

MEKP should never be added to hot solvents or monomers as a violent decomposition and/or reaction may result. When using spray equipment, never spray raw MEKP onto curing or into raw resin or flues. Keep MEKP in its original container. DO NOT STORE WITH FOOD OR DRINK. DO NOT USE NEAR FOOD OR DRINK.

Unmixed, uncontaminated material, remaining at the end of the day, shall be returned to a proper organic peroxide storage area.^{1[1]} Under no circumstances should material be returned to the original container.^{2[2]}

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION

If airborne concentrations are expected to exceed acceptable levels wear a NIOSH/MSHA approved air-purifying respirator with an organic vapor cartridge or canister. When using respirators refer to OSHA's 29CFR 1910.134.

VENTILATION

Mechanical, general.

EYE PROTECTION

Safety goggles recommended. Permanent eyewash is highly recommended.

HAND PROTECTION

Protective gloves recommended, solvent resistant, such as butyl rubber, nitrile or neoprene.

OTHER

A safety shower and eyewash is recommended when the risk of a significant exposure exists.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT °F

Unknown

SPECIFIC GRAVITY (Water=1) 1.1

VAPOR PRESSURE mm Hg.

Unknown

% VOLATILE BY VOLUME Unknown

VAPOR DENSITY (Air=1)

> 1

SOLUBILITY IN WATER

Slight

EVAPORATION RATE Unknown

APPEARANCE AND ODOR

Water white liquid with a slight odor.

SECTION 10 - STABILITY AND REACTIVITY

INCOMPATIBILITY (Materials to avoid)

Dimethylaniline, cobalt naphthenate and other promoters, promoted resins, accelerators, reducing agents, strong acids, bases, metals, metal alloys and salts, sulfur compounds, amines or any hot material.

STABILITY

Stable when kept in original, closed container, out of direct sunlight at temperatures below 80°F.

HAZARDOUS

Decomposition products are flammable. Acrid smoke and irritating fumes.

DECOMPOSITION PRODUCTS**HAZARDOUS**

Will not occur.

POLYMERIZATION

^{1[1]} See CCR Title 8 Section 5461, NFPA 432, and UFC (91) Sec. 80.307.

^{2[2]} See NFPA 14-3

SECTION 11 - TOXICOLOGICAL INFORMATION

Methyl Ethyl Ketone Peroxide

Hazard Data:

Inhalation: Rat--LC₅₀: 200 ppm/4 hr, lung, thorax, respiration, or dyspnea; Mouse--LC₅₀: 170 ppm/4 hr, lung, thorax, respiration, or dyspnea.

Intraperitoneal: Rat--LD₅₀: 65 mg/kg, behavioral, muscle weakness behavioral, ataxia.

Oral: Rat--LD₅₀: 484 mg/kg; Mouse--LD₅₀: 470 mg/kg; Human--TD_{L0}: 480 mg/kg, changes in structure or function

of esophagus gastrointestinal, nausea or vomiting gastrointestinal.

Skin: Rabbit--LD₅₀: 500 mg.

Dimethyl Phthalate

Hazard Data:

Inhalation: Cat--LC_{L0}: 9300 mg/m³/6.5 hr.

Intraperitoneal: Mouse--LD₅₀: 1380 mg/kg.

Oral: Rat & Mouse--LD₅₀: 6800 mg/kg, somnolence behavioral, withdrawal nutritional and gross metabolic, weight loss or decreased weight gain; Dog--LD: >1400 mg/kg; Rabbit--LD₅₀: 4400 uL/kg.

Subcutaneous: Mouse--LD_{L0}: 6500 mg/kg, dyspnea lung, thorax, respiration, or cyanosis.

2,2,4-Trimethyl-1,3-pentanediol diisobutyrate

Hazard Data:

Oral: Rat--LD₅₀: >3200 mg/kg

Hydrogen Peroxide

Hazard Data:

Inhalation: Mouse--LC_{L0}: 227 ppm; Rat--TC_{L0}: 67 ppm/6hr/6W-1, dermatitis, irritative of the skin.

Intraperitoneal: Mouse--LD₅₀: 880 mg/kg.

Intravenous: Rabbit--LD₅₀: 15 gm/kg, behavioral, convulsions or effect on seizure threshold.

Oral: Rat--LD₅₀: 376 mg/kg, gastrointestinal, peritonitis blood, pigmented or nucleated red blood cells; Mouse--LD₅₀: 2 mg/kg.

Subcutaneous: Rat--LD₅₀: 620 mg/kg; Mouse--LD₅₀: 1072 mg/kg.

Skin: Rat--LD₅₀: 4060 mg/kg, lung, thorax, respiration, or pulmonary emboli; Rabbit--LD_{L0}: 500 mg/kg, behavioral, convulsions or effect on seizure threshold.

Methyl Ethyl Ketone

Hazard Data:

Eye: Human: 350 ppm.

Inhalation: Rat--LC₅₀: 23500 mg/m³/8hr.

Intraperitoneal: Rat--LD₅₀: 607 mg/kg; Mouse--LD₅₀: 616 mg/kg.

Oral: Rat--LD₅₀: 2737 mg/kg; Mouse--LD₅₀: 4050 mg/kg.

Skin: Rabbit--LD₅₀: 6480 mg/kg.

Severely irritating to the skin, may cause redness, blistering, and edema. May be harmful if absorbed through the skin. Irritating to the eyes may cause severe corrosion and blindness. Harmful if swallowed. May be harmful if inhaled. Prolonged inhalation of vapors may cause mucous membrane irritation and vertigo.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: Methyl ethyl ketone peroxide: EC₅₀ (Guppy), 44.2 mg/L/96 hr; EC₅₀ (alga), 42,700 ug/L/96 hr.

Environmental Fate: Methyl ethyl ketone peroxide (MEKP) was evaluated for biodegradability in a closed bottle system and was reported to be readily biodegradable. An EC₅₀ of 16mg MEKP/L activated sludge was reported in an activated sludge respiration inhibition test.

SECTION 13 - DISPOSAL CONSIDERATIONS

Prevent material from entering drains, sewers, streams, etc.

Immediately dispose of waste material at a RCRA approved hazardous waste management facility in accordance with federal, state and local regulations.

SECTION 14 - TRANSPORT INFORMATION

DOT Shipping Name:	ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL KETONE PEROXIDE, ≤45%)
DOT Hazard Class:	5.2
UN/NA ID No.:	UN3105

DOT Packing Group: PG II
DOT RQ RQ
2000 ERG GUIDE NO.: 145

SECTION 15 - REGULATORY INFORMATION

The following chemicals are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Percent</u>
Dimethyl Phthalate	131-11-3	43
Methyl Ethyl Ketone	78-93-3	02

Reportable Quantity

2-Butanone Peroxide (MEKP): 10 lbs (4.54 kg)

TSCA Status

The ingredients in this product are listed in the US Toxic Substances Control Act (TSCA) Inventory.

Canadian Domestic Substances List (DSL)

The ingredients in this product are listed in the Canadian DSL Inventory.

European Inventory of Existing Commercial Chemical Substances (EINECS)

The ingredients in this product are listed in the European EINECS Inventory.

Australian Inventory of Chemical Substances (AICS)

The ingredients in this product are listed in the Australian AICS Inventory.

Status of Carcinogenicity

Not recognized as a carcinogen by the IARC, NTP or OSHA.

SECTION 16 - OTHER INFORMATION

VOC Information

Using ASTM Test Method D-2369-87, but at 40°C (since MEKP decomposes rapidly above 100°C and is not a VOC), MEKP-9 contains 2.4% VOC, by weight, or 27 grams per liter. For more information call Norac.

NFPA 432 Organic Peroxide Classification

Class III

NFPA 704 Rating

<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>
3	2	2

HMIS Rating

<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>
3	2	2

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