

DATE PREPARED: 12/20/2002

MSDS No: HP60-KIT

1. PRODUCT AND COMPANY IDENTIFICATION**PRODUCT DESCRIPTION:** Polyester Hardener, 1 oz. container.**PRODUCT CODE:** HP10 Hardener Component**MANUFACTURER**

Hudson Supply Company

4500 Lee Rd

Cleveland, OH 44128-2959

Customer Service: (800) 486-0480**24 HR. EMERGENCY TELEPHONE NUMBERS****CHEMTREC (U.S.):** (800) 424-9300**Emergency Phone:** (800) 424-9300**2. COMPOSITION / INFORMATION ON INGREDIENTS**

<u>Chemical Name</u>	<u>Wt.%</u>	<u>CAS#</u>
Methyl Ethyl Ketone Peroxides	34	1338-23-4
2,2,4-Trimethyl-1,3-pentanediol disobutyrate	58	6846-50-0
Hexylene Glycol	6	107-41-5
Water	0.7	7732-16-5
Hydrogen peroxide	0.7	7722-84-1

COMPONENTS :**EXPOSURE LIMITS**

<u>Chemical Name</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>Supplier</u>
Methyl Ethyl Ketone Peroxides	NA	NA	
2,2,4-Trimethyl-1,3-pentanediol disobutyrate			
Hexylene Glycol	25 ppm	25 ppm	
Water			
Hydrogen peroxide	1 ppm	1 ppm	NL

3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW****PHYSICAL APPEARANCE:** Clear, oily liquid**IMMEDIATE CONCERNS:** DANGER!!! ORGANIC PEROXIDE. CAUSES EYE BURNS. MAY CAUSE BLINDNESS. HARMFUL IF SWALLOWED. MAY CAUSE SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION.

POTENTIAL HEALTH EFFECTS

EYES: May cause significant irritation to the eyes.

SKIN: May cause significant irritation to the skin.

SKIN ABSORPTION: Slightly toxic if absorbed through the skin.

INGESTION: Moderately toxic if swallowed.

INHALATION: Practically non-toxic if inhaled.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Redness and possible itching and/or tearing of the eyes.

SKIN: Redness and/or itching of the skin

SKIN ABSORPTION: Irritation of skin.

INGESTION: If swallowed, central nervous system effects may occur as follows: Headache, dizziness, loss of coordination, loss of consciousness or convulsions, irritation of the mouth, throat and stomach, and in severe cases, death.

INHALATION: Overexposure to vapor may lead to digestive disorders, narcosis, and central nervous system effects such as headache, dizziness, loss of coordination, loss of consciousness or convulsions.

4. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water for two to three minutes. Remove any contact lenses and continue flushing for 15 minutes. Get medical attention.

SKIN: Wash thoroughly with soap and water.

INGESTION: Induce vomiting and seek medical attention immediately.

INHALATION: Remove individual to fresh air.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: 71°C (160°F)

FLAMMABLE LIMITS: N/A to N/A

AUTOIGNITION TEMPERATURE: Not Applicable

EXTINGUISHING MEDIA: Water fog, water spray, dry chemical, foam.

EXPLOSION HAZARDS: Contact with incompatible materials or exposure to temperatures exceeding 70 degrees C, (158 degrees F) may result in a self-accelerating decomposition reaction with release of flammable vapors which may autoignite.

FIRE FIGHTING PROCEDURES: If a large amount of product is involved, evacuate area and fight fire from a safe distance. Do not use a solid stream of water. A solid stream of water can

spread fire. Use water spray to disperse any flammable mists and vapors which have not ignited.

FIRE FIGHTING EQUIPMENT: Respiratory and eye protection are required for fire fighting personnel. Full protective equipment (Bunker Gear) and self contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires. For small outdoor fires, which may easily be extinguished with a portable fire extinguisher, use of a SCBA may not be required.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Use inert, noncombustible absorbent material. Sweep or scoop up using non-sparking tools and remove.

LARGE SPILL: Use inert, noncombustible absorbent material. Sweep or scoop up using non-sparking tools and remove.

7. HANDLING AND STORAGE

HANDLING: Contact with incompatible materials or exposure to temperatures exceeding 70 degrees C, (158 degrees F) may result in a self-accelerating decomposition reaction with release of flammable vapors which may autoignite.

Keep away from heat, sparks and flame. Avoid contamination. Use explosion-proof equipment. Use only with adequate ventilation. Do not get in eyes, on skin or clothing. Do not taste or swallow. Avoid breathing vapor or mist. Wash hands thoroughly after handling. Keep container closed. Do not reuse container as it may retain hazardous product residue.

STORAGE: Store below 100 degrees F (38 degrees C), to maintain active oxygen content.

Detached storage is preferred. Avoid excessive heat, and store out of direct sunlight in a cool well-ventilated place. Store away from combustibles and incompatible materials.

STORAGE TEMPERATURE: (100°F) maximum

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Investigate engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to control exposure levels below airborne exposure limits. Dilution ventilation is acceptable, but local mechanical exhaust ventilation is preferred, if practical at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

PERSONAL PROTECTION

EYES AND FACE: Wear safety glasses with side shields or goggles when handling this material.

SKIN: To prevent any contact, wear impervious protective clothing such as neoprene or butyl

rubber gloves, apron, boots or whole bodysuit, as appropriate.

RESPIRATORY: Use NIOSH/MSHA approved air supplied respirator in absence of proper environmental control.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

ODOR: Ketone odor

APPEARANCE: Clear oily liquid

pH: Not Applicable

PERCENT VOLATILE: Not Applicable

VAPOR PRESSURE: Not Applicable

VAPOR DENSITY: Not Applicable

BOILING POINT: Not Applicable

FREEZING POINT: < 0°C

SOLUBILITY IN WATER: Slight

10. STABILITY AND REACTIVITY

STABLE: NO

HAZARDOUS POLYMERIZATION: NO

HAZARDOUS DECOMPOSITION: Decomposition products are flammable.

INCOMPATIBLE MATERIALS: Contamination with foreign materials such as strong acids, strong alkalis, strong oxidizers, transition metal salts, reaction accelerators/promoters or reducing agents may result in a self accelerating decomposition reaction. Rust, copper and brass are not compatible with MEK peroxide. 316 stainless steel, glass, polyethylene, polytetrafluoroethylene and polypropylene are preferred materials for contact with MEK peroxide. Acetone may react with residual hydrogen peroxide to form insoluble shock-sensitive acetone crystals.

11. TOXICOLOGICAL INFORMATION

GENERAL COMMENTS: This product has not been tested for toxicity. Below are the data for the individual components:

METHYL ETHYL KETONE PEROXIDE STRUCTURES (MEKP)

Following an allergic skin reaction in a paint sprayer, patch testing produced an allergic skin reaction with MEKP as well as other components of the paint. However, subsequent patch testing did not produce allergic skin reaction in 34 healthy subjects. Swallowing of MEKP was reported to cause liver injury in one case report. Single exposure (acute) studies on 40-60%

MEKP in dimethyl phthalate indicate that it is moderately toxic to rats if swallowed, (LD50 484 mg/kg), practically non-toxic to rats if inhaled, (4-hr LC50 17-50 mg/l), corrosive to rabbit eyes and moderately irritating to rabbit skin (4 hr exposure, 4.5/8.0). Repeated oral administration of MEKP was reported to result in decreased body weight, mild liver and kidney injury and death in rats. Following repeated application of MEKP in dimethyl phthalate to the skin of rats and mice, severe skin damage and animal deaths (only at the highest dose levels) were the primary effects. Spleen and bone marrow changes considered secondary to the severe skin damage were noted in animals at the high doses. Higher doses applied to rat and mouse skin for a shorter time produced similar effects. Long-term repeated skin application of MEKP in dimethyl phthalate was reported to enhance skin tumor production in mice irradiated with UVB. MEKP has produced genetic changes in standard tests using bacterial or animal cells. However, no genetic changes occurred in a standard test using animals.

2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE:

Acute studies indicate that 2,2,4-trimethyl-1,3-pentanediol diisobutyrate is no more than slightly toxic to rats if swallowed (LD50 >3,200 mg/kg), practically non-toxic to guinea pigs if absorbed through skin (LD50 >20 ml/kg), practically non-toxic to rats if inhaled (6-hr LC50 >5.3 mg/l), slightly irritating to rabbit eyes and slightly irritating to guinea pig skin. No skin allergy was observed in guinea pigs following repeated exposures to 2,2,4-trimethyl-1,3-pentanediol diisobutyrate in controlled skin contact studies. Increased liver weights, which were probably adaptive changes due to the induction of drug metabolizing enzymes in these tissues, were observed in rats or dogs fed 2,2,4-trimethyl-1,3-pentanediol diisobutyrate (up to 1%) in their feed for up to 103 days. 2,2,4-trimethyl-1,3-pentanediol diisobutyrate is eliminated in the excreta of rats following a single oral dose with little or no retention in the tissues or organs.

HEXYLENE GLYCOL:

Skin application of 50% hexylene glycol in water showed only minimal irritation in human volunteers, while repeated application of consumer products containing up to 1% hexylene glycol did not show irritant or sensitizing effects in human. Patch tests have shown sensitization responses in individuals working with cutting oils containing hexylene glycol. Acute studies indicate the hexylene glycol is slightly toxic to rats, rabbits, mice and guinea pigs if swallowed (LD50 2,800-4,700 mg/kg), practically non-toxic to rabbits if absorbed through skin (LD50 12,300 mg/kg), severely irritating to rabbit eyes and moderately irritating to rabbit skin. No deaths occurred in rats exposed to about 160 ppm hexylene glycol for 8 hours. Rats and rabbits exposed to hexylene glycol (0.7 mg/l) for 9 days did not show any adverse effects. Hexylene glycol in the diet at up to 150 mg daily for 4 months produced no adverse effects on growth behavior or fertility in rats. Changes in the kidney were noted at 200 mg/day. Hexylene glycol has not produced genetic changes or chromosomal effects in standard tests using bacterial or animal cells.

METHYL ETHYL KETONE (MEK)

Repeated exposure of humans to MEK controlled skin contact studies produced no skin irritation or skin allergy. Central nervous system (CNS) effects and peripheral neuropathy have been reported in the industrial setting following exposure to mixtures containing MEK; however, these mixtures contained other solvents known to cause nervous system injury. Acute studies indicate that MEK is no more than slightly toxic to rats if swallowed (LD50 2,700 to 5,600 mg/kg), practically non-toxic to rabbits if absorbed through skin (LD50 5,000 to 13,000 mg/kg) or rats if inhaled (4-hr LC50 11,700 ppm) and moderately irritating to rabbit eyes and skin. Following repeated inhalation exposure, slight changes in organ weights and blood chemistry were reported in rats. No evidence of nervous system injury following long-term inhalation exposure to MEK has been observed in rats, chickens, mice or cats. Animal studies have shown MEK to increase the severity of, or shorten the onset of irreversible nervous system effects due to n-hexane and methyl butyl ketone, as well as effects of chloroform and carbon tetrachloride. MEK did not increase the incidence of tumors in long-term skin application studies in mice. A small number of major birth defects were reported in rats exposed to MEK by inhalation during pregnancy at a level (3,000 ppm) which produced toxic effects in the offspring, but not in the mothers. However, no birth defects were found in a second repeat study with rats using very similar exposure conditions, while adverse effects were noted in the mothers and their offspring. In mice exposed to 3000 ppm MEK by inhalation during pregnancy, toxic effects were observed in the mothers (mild effects only) and their offspring. MEK has generally produced no genetic changes in standard tests using animals and animal or bacterial cells. A positive response was reported in one assay using yeast cells.

12. ECOLOGICAL INFORMATION

CHEMICAL FATE INFORMATION: METHYL ETHYL KETONE PEROXIDE STRUCTURES (MEKP)

MEKP was reported to be readily biodegradable in a closed bottle system. An EC50 of 16mg/l was reported in an activated sludge respiration inhibition test.

2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE:

In a 28-day modified Sturm Test, 2,2,4-trimethyl-1,3-pentanediol diisobutyrate was found to undergo 32-59% degradation to CO₂. The bioconcentration factor without metabolism was estimated to be 670 and with metabolism 1-40. The log Pow of 2,2,4-trimethyl-1,3-pentanediol diisobutyrate is estimated to be 4.1

HEXYLENE GLYCOL:

Chemical oxygen demand (COD) and biological oxygen demand (BOD) indicated that hexylene glycol is readily biodegraded.

METHYL ETHYL KETONE (MEK):

Extensive data suggests that MEK is readily biodegradable. It is non-toxic to sludge microorganism at concentration up to 800 ug/l.

GENERAL COMMENTS: Ecological effects of this product has not been determined. Below is the data for the components of this material.

METHYL ETHYL KETONE PEROXIDE STRUCTURES (MEKP)

MEKP is slightly toxic to guppies (96-hr LC50 mg/l)

2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE

2,2,4,-trimethyl-1,3-pentanediol diisobutyrate is no more than moderately toxic to most aquatic organism on an acute basis with LC50 values >1.55 mg/l for the fathead minnow, ramshorn snail, aquatic earthworm, sideswimmer, pill bug and flatworm. It is no more than moderately toxic to daphnid (EC50 >1.46 mg/l)

HEXYLENE GLYCOL:

Hexylene glycol has been reported to be practically non-toxic to a variety of aquatic organisms by acute toxicity testing. Freshwater fish including rainbow trout, bluegill sunfish, fathead minnow, mosquito fish, goldfish and channel catfish had LC50 values in excess of 1,000 mg/l and generally were in the range of 8,000 to 10,000 mg/l. Aquatic invertebrates such as Daphnia and crayfish had EC50 values greater than 2,800 mg/l.

METHYL ETHYL KETONE (MEK)

MEK is practically non-toxic to goldfish, brine shrimp, Daphnia magna, fathead minnow, mosquito fish, bluegill sunfish and golden orfe (LC50 >1,000 mg/l). MEK inhibits fungal growth and is reported to be bacteriostatic to several microorganisms (Escherichia coli, Salmonella typhimurium, Staphylococcus aureus, Leuconostoc citrovorum and Streptococcus themophilus) at levels of 10-100 mg/l. Growth inhibition has also been reported for freshwater algae at levels ranging from 120 mg/l (blue-green algae) to 4,300 mg/l (green algae).

13. DISPOSAL CONSIDERATIONS

GENERAL COMMENTS: Dispose in accordance with federal, state and local regulations. Dilution followed by incineration is the preferred method. Dilution ratio of 10:1 in a clean, compatible, combustible solvent (i.e. Fuel Oil #2, mineral oil) will reduce reactivity hazard during incineration and transportation.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Organic Peroxide type D, Liquid

TECHNICAL NAME: Methyl Ethyl Ketone Peroxide, 45%

PRIMARY HAZARD CLASS/DIVISION: 5.2

UN/NA NUMBER: 3105

PACKING GROUP: II

15. REGULATORY INFORMATION**UNITED STATES****SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)**

FIRE: YES **PRESSURE GENERATING:** NO **REACTIVITY:** YES **ACUTE:** YES **CHRONIC:** NO

313 REPORTABLE INGREDIENTS: Methyl Ethyl Ketone

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA RQ: Methyl Ethyl Ketone Peroxides, 10 lbs.

Methyl Ethyl Ketone, 5000 lbs.

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: All intentional ingredients are listed on the TSCA Inventory.

TSCA STATUS: Listed

STATE REGULATIONS

CALIFORNIA PROPOSITION 65: This product does not contain any chemicals currently on the California list of known Carcinogens and list of known Reproductive Toxins.

GENERAL COMMENTS: Pennsylvania Right-to-Know hazardous substance list:

Methyl Ethyl Ketone Peroxides (1338-23-4)

Hexylene Glycol (107-41-5)

Methyl Ethyl Ketone (78-93-3)

Hydrogen Peroxide (7722-84-1)

Pennsylvania Right-to-Know environmental hazardous substance list:

Methyl Ethyl Ketone Peroxide (1338-23-4)

Methyl Ethyl Ketone (78-93-3)

Hydrogen Peroxide (7722-84-1)

Massachusetts hazardous substance list:

Methyl Ethyl Ketone Peroxide (1338-23-4)

Hexylene Glycol (107-41-5)

Methyl Ethyl Ketone (78-93-3)

Hydrogen Peroxide (7722-84-1)

New Jersey Right-to-Know hazardous substance list:

Methyl Ethyl Ketone Peroxide (1338-23-4)

Methyl Ethyl Ketone (78-93-3)

Hexylene Glycol (107-41-5)

Hydrogen Peroxide (7722-84-1)

16. OTHER INFORMATION

APPROVED BY: David C. Dillon **TITLE:** Systems Administrator

APPROVAL DATE: 01/02/2003

REVISION SUMMARY New MSDS

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