

INTRODUCTION

This manual has been written as a quick guide on the proper handling and storage procedures of **Methyl Ethyl Ketone Peroxide and Initiators**. In order to protect specific hazards of each product handled please consult all relevant Material Safety Data Sheets.

EMERGENCY PROCEDURES

In case of fire – please contact fire department immediately.

Class B extinguishers can be used for small fires. Please evacuate the area and apply water from a safe distance if there is a large fire.

In case of eye contact, rinse immediately with plenty of water for at least 10 - 15 minutes and please urgently contact with a doctor.

In a mouth ingestion manner, call a physician immediately. It could be harmful or fatal if swallowed. In case of accidental swallowing administer water in small sips charcoal tablets in addition.

If peroxide is spilled, absorb with inert material. Vermiculite or clean sand immediately and destroy in accordance with local regulations.

Do not add any promoters to MEKP, such as cobalt naphthenate or dimethylaniline.

HANDLING

Please avoid any contact of the material with the skin, eyes or clothing. Safety glasses and protective gloves must be worn.

Ketone Peroxides must be kept away from all sources of heat and ignition such as cigarettes, radiators, steam pipes and open flames.

Bring only required amount of Ketone Peroxides to the working area.

Avoid contamination with combustible materials strong oxidizing or reducing agents and accelerators (promoters) used for curing polyester and vinyl ester resins.

Handle with care. Avoid rough handling, spilling and splashes.

WORKER PRECAUTIONS

Personnel shouldn't be smoke or light matches around the MEKP. All sources of heat and open flames must be kept away. Safety glasses and protective gloves must be worn during operation.

Prevent spilling or splashing peroxides. Spills should be cleaned up immediately. The peroxides must not be sprayed from injection spray guns on to

hot surfaces or combustible materials.

When operator is outlaying, dispensing and weighing the chemical, the surface should be

clean, smooth and uncluttered area near the point of use.

Peroxide never be added to dirty catalyst supply tanks. Before adding peroxide into the tank, please inspect the tank carefully. Tank must be clean and no foreign materials in it.

Any material contaminated with peroxide from other combustible material must be immediately isolated. All contaminated material must be removed to a fire safe area. MEKP never mixed up with accelerators such as Cobalt Naphthenate used to cure Polyester. MEKP shouldn't mixed up to resin solutions at temperatures higher than 45 °C (113 °F). Do not add MEKP with solvents such as acetone. The resulting mixture could be maybe unstable.

OPERATING PRECAUTIONS

All contacts with MEKP are going to result as inertion. All cases polyethylene is used together with MEKP. Also is acceptable with Type316 stainless steel and Teflon.

The following materials shouldn't be used with MEKP, such as; brass, bronze. copper, aluminum, iron, Type400 stainless steel, rubber and all materials which contains prone to oxidation.

Pumping systems for MEKP should be constructed of approved materials at all points of contact.

Heat should be avoided by using a suitable designed pump. Excessive shear, friction or solution recirculation should be avoided. Pumps should be avoided of static electric with the methods such as grounding etc.

CONTAMINATION

Dealing with combustible materials special care must be taken to avoid contamination. In general rust, metal fillings, FRP grinding dust and airborne dust must be kept away.

Unused portions of MEKP shouldn't be returned to the container. When transferring MEKP to another container, please inspect the container carefully and make sure no foreign materials in there.

STORAGE

Recommended storage area should be away from the production line. In addition to that, area must be free of flames. During the selection of storage area local/national laws and regulations should be considered.

Please bring only required amount of Ketone Peroxides to the working area.

To create safe storage area, please take care and be aware of the followings;

1-The most suitable temperature for MEKP to retain its quality is, 86 °F (30 °C) and called as "Ts"

2-MEKP could be dangerous when temperature reaches to 122 °F (50 °C) and this level of temperature called "Te" (Emergency Temperature)

3-Self accelerating decomposition temperature (SADT) is the lowest temperature level that MEKP will spontaneously start decomposing. The SADT for MEKP is 140 °F (60 °C)

Considering this information, MEKP should be stored in a cool place in the original containers. To obtain maximum shelf life storage at 65 °F – 86 °F (18 °C – 30 °C) is strongly recommended.

WAREHOUSE CONSTRUCTION

Construction and placement of a storage facility is regulated by local ordinances and the insurance underwriter. These agencies should be contacted first for aid in selection and construction of a warehouse.

In general, a detached separate building is preferred and recommended especially for large quantities. The building should be used exclusively only for organic peroxides and must be free from combustible materials inside and out.

All the systems in the building should be prevented from electrical risks such as ignition. All fixtures should be proof of ignition and spark risk.

Central heating and air conditioning systems should be constructed out of combustible risks.

Inside the building the materials and the peroxides should be protected from direct sunlight. Stacking must be done freely with spares and aisles between stacks of peroxides.

A temperature monitoring system should be installed in the building to watch out the temperature frequently. This is also important for keeping the products' activity.

STORAGE

Good housekeeping practices should be maintained. Storage must be checked regularly in case of leaking. If you see any spills please clean up immediately. Warehouse must be kept clean. There shouldn't be any foreign materials in the warehouse. Damaged containers never be placed in the warehouse. Stacking must be done freely with spares and aisles between stacks of peroxides.

There shouldn't be placed more than 5 high containers; else, the container at the bottom could be damaged.

Storage area must be clean and tidy. Aisles and containers organized and numbered. In order to maintain production quality incoming products should be recorded. Temperature of the storage area should be frequently checked.

There must be warning labels on the walls around the storage area. Water supply should be available when it's needed. Also nearby water supply firefighting equipments should be available.

All personnel working in the area must be aware of hazardous effects of the Ketone Peroxide and spin offs.

SPILLAGE

If any MEKP spills around, area must be cleaned up immediately. In any case the spilled material never be tried to be salvaged and never be used again.

Please dispose the area immediately if disposal not possible place the wet absorbent in a clean polyethylene pail containing water. After absorbing spilled peroxide the contaminated area should be washed clearly.

MEKPs are not generally soluble in water so care must be taken to ensure that washing procedures are through.

A periodic inspection and clean-up of organic peroxide storage facilities to avoid spontaneous combustion of accumulated foreign materials.

DISPOSAL

According to laws disposition carried out carefully. Disposition must never be done through sewage system. Disposal of MEKP should be carried out by experts.

Hazardous wastes require special handling. Contact or call your local codes enforcement office for this information.

Sink disposal of solid materials should be avoided.

FIRE

For small fires please use water fog or Class B extinguishers.

For large fires, evacuate the area and apply water from a safe distance.

If fire occurs nearby, spray water on the peroxides to prevent heating.

FIRST AID

EYES – Flush immediately with large amounts of fresh water and continue washing for at least 15 minutes. Medical attention is needed.

SKIN – Wash with soap and water.

INGESTION – Administer large amounts of milk or water and call a physician immediately. Do not induce vomiting. As an aid to the physician, suggest calling your local Poison Control Center.