

69 MEKP (Methyl Ethyl Ketone Peroxide)



Overview:

#69 MEKP - Phthalate free MEKP offers the greatest flexibility in terms of useful concentration range and pot-life thus finds use in a wide variety of ambient temperature cure application. Used by most UPR (unsaturated polyester resin) producers for resin standardization because of its consistent lot-to-lot catalytic activity. Low residual hydrogen peroxide content makes #69 is ideal for use in gel coats

Available in ounce and gallon sizes as well as resin/hardener kits.

Features & Benefits:

Table I and II illustrate the effects of varying peroxide* and promoter levels in typical orthophthalic resin. Table III illustrates SPI cure activity.

*Although often referred to as "catalysts", organic peroxides are more correctly termed polymerization initiators since the free radicals generated become chemically bonded to the cross linked resin.

**Table I:
Effects of Peroxide**

Resin: Orthophthalic Cobalt solution

Varying Concentration
Resin with 0.05% of 6%
Temperature 25 C

| Peroxide Conc. (%) | #69 |
|--------------------|------|
| 1.0 | 24.4 |
| 1.25 | 22.8 |
| 1.50 | 19.8 |

**Table II:
Effects of Promoter**

Resin: Orthophthalic Temperature 25 C

Varying Concentration
Resin 1% Peroxide

| Cobalt Conc. (%) | #69 |
|------------------|------|
| 0.050 | 24.4 |
| 0.075 | 18.9 |
| 0.10 | 15.5 |

**Table III:
SPI Cure Activity at 25 C**

| 1% Peroxide. Resin: Orthophthalic (0.05% of 6% Cobalt Solution) | #69 |
|---|------|
| Gel Time (min) | 24.4 |
| Cure Time (min) | 35.7 |
| Peak Ex (°F) | 301 |
| Barcol 934 Hardness | 42 |
| 1.5% Peroxide. Resin: Isophthalic (Promoted) | #69 |
| Gel Time (min) | 27.8 |
| Cure Time (min) | 33.1 |
| Peak Ex (°F) | 364 |
| Barcol 934 Hardness | 30 |

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| 1% Peroxide. Resin: Vinyl Ester (0.2% of 6% Cobalt solution 0.08% DMA) | #69 |
|---|------------|
| Gel Time (min) | 15.2 |
| Cure Time (min) | 26.4 |
| Peak Ex (°F) | 311 |
| Barcol 934 Hardness | 95 |

| Typical Properties | #69 |
|---|--------------|
| Form | Clear Liquid |
| Specific Gravity | 1.004 |
| Refractive Index at 77°F | 1.4356 |
| Viscosity at 77°F | 12.4 |
| Freezing Point | -22°F |
| Flash Point | 160°F |
| Self-Accelerating Decomposition Temperature | 167°F |

Storage:

The recommended storage temperature is 65-85 °F, with a maximum of 100 °F. MEKP should be stored (isolated for large quantities) away from flammables, strong oxidizing and reducing agents, in particular, promoters such as cobalt compounds. You should NEVER store MEKP in a refrigerator containing food and drink. Only store MEKP in original containers. DO NOT return material to original container. Leaking containers of MEKP should be removed and isolate in a safe area. Repackage or dispose as soon as possible. These signs should be posted in the storage area "No Smoking" and "Flammable Storage - Keep Fires Away".

Handling:

Wear safety glasses or goggles and gloves. Bring in only enough peroxide for one working shift. Keep away from hot steam lines radiators, sparks, and open flames. Do not add to hot (over 120 F) solutions. Drain and discard catalyst vessel contents if operation is to be shut down for one or more working shifts.

Dilution: Use only high purity solvents, NEVER DILUTE WITH ACETONE. Shock-sensitive acetone peroxide crystals can form. NEVER add ketone peroxides directly to promoters such as cobalt octoate or vice versa. Violent decomposition can take place.

Spillage and Disposal:

Absorb on inert material, e.g., Perlite, Vermiculite, clean white rags. Wet the MEKP with water, and then sweep into clean polyethylene bags and transfer to disposal area. Dispose in accordance with Federal, State and local regulations. MEK Peroxide is specifically listed as a Hazardous Waste in 40CFR Part 261.33, with an EPA Waste No. of U160.

Treatment or disposal should only be performed by a properly permitted facility. The preferred method of disposal is dilution followed by incineration. Dilution ratio of 10:1 in a clean, compatible, combustible solvent will reduce reactivity hazard during transportation and incineration.

Fire:

Standard ketone peroxides ignite readily and burn vigorously. Fire resistant ketone peroxides ignite with difficulty, however, prolonged exposure to flame will result in sustained mild burning. For small fires of MEKP use carbon dioxide or water to smother the fire. For large fires use water (spray, fog or foam) applied from a safe distance with special attention to containers not immediately involved.