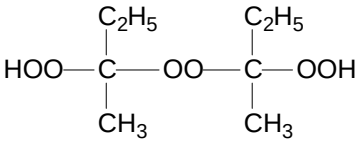
LUPEROX® K1 S

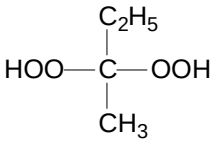
Methyl Ethyl Ketone Peroxide

CAS Nr.: 1338-23-4 EINECS: 215-661-2

LUPEROX® K1 S is Methyl Ethyl Ketone Peroxide used for the cure of unsaturated polyester resins at room temperatures in combination with a cobalt accelerator like LUPERFAST™ CO 1G.

Chemical structure





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Typical properties

Density at 20℃..... ..... 1,128 g/ml	SADT (self-accelerating decomposition temp.).... 65℃
Viscosity at 20℃..... ..... 16 mPa s	Flash point (setapoint)..... 60℃

Product can be stored minimum three months after receiving date, if kept in appropriate conditions and below its maximum storage temperature. Refer to the Safety Data Sheet for detailed storage instructions.

Dosage

Typical concentrations for LUPEROX® K1 S run from 1 to 3 % by weight based on resin and for cobalt accelerator from 0,25% to 4% based on 1% metal content solution.
Luperox® K1 S is recommended for the curing of ortho- and isophthalic resins at temperatures between 15℃ and 50℃.

Replacing LUPEROX® K1 G with LUPEROX® K1 S

- ✓ Dosage by volumetric pumps
  Because of its slightly higher density, volumetric metering should be corrected when replacing LUPEROX® K1 G with LUPEROX® K1 S.
  1 volume of LUPEROX® K1G should be replaced by 0,9 volumes of LUPEROX® K1S.
  The table below simplifies volume dosage conversion:

Dosage volume	
LUPEROX® K1 G	**LUPEROX® K1 S**
1	0,90
1,5	1,36
2	1,81
2,5	2,26
3	2,71

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- ✓ Dosage by weight
  Dosage is strictly identical between LUPEROX® K1 S and LUPEROX® K1 G to obtain same curing performance.

Applications

LUPEROX® K1 S is used for applications such as hand lay-up, spray up, centrifugal casting, filament winding, polyester concrete, etc.
It is particularly suitable for gel coat curing.
Its low viscosity makes it ideal for spray-up techniques (airless) with external mixing.
Faster reaction with shorter demold times can be obtained by the addition of promoters such as LUPERFAST™ DMA 10G (dimethyl aniline) or LUPERFAST™ DEA 10G (diethyl aniline) to LUPERFAST™ CO 1G (cobalt accelerator).
For the full list of Arkema's accelerators and inhibitors please ask to your traditional Arkema contact person or ask on www.arkema.com.

Cure performance

The factors to be considered in selecting the optimum initiator / accelerator system are:
1. Process
2. Resin type
3. Required gel time or pot-life
4 Part thickness
5. Room temperature
6. Nature and quantity of additives
7. Dosage optimization between LUPEROX® K1 S and accelerator.

For comparison purposes, the table below shows activities of different MEKPs.

Product	Gel time	Cure time	Peak Exothermic
LUPEROX® K1 S	**7 minutes**	**16 minutes**	**146°C**
LUPEROX® K1 G	7 minutes	16 minutes	144°C
LUPEROX® K10	5 minutes	10 minutes	144°C

Tests were carried out at 25°C on 25 g of medium a ctivity resin pre-accelerated with 1% of LUPERFAST™ CO 1G (cobalt accelerator 1% metal content solution) and with 2% of MEKP.

LUPEROX® K1 S is equivalent in reactivity to LUPEROX® K1 G.

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