

PRODUCT AND COMPANY IDENTIFICATION

Commercial name	PROMOX P211TX		
Chemical name	Methyl ethyl ketone peroxide Phthalates Free solution – 2 Butanone Peroxide		
Intended use	For Industrial Use – Curing of Unsaturated Polyester Resins – Reaction Initiator		
Manufacturer/supplier	PROMOX S.p.A	Via A. Diaz, 22/a	21038 Leggiuno (VA)
	tel. +39/0332/648380	fax +39/0332/648105	e-mail info@promox.eu
Emergency telephone	In the case of any accidental contact, call:		
	ANTIPOISONS CENTER – MILAN – ITALY		TEL. +39/02/66101029
	PROMOX S.P.A. – 24h/24h		TEL. +39/0332/649267

PRODUCT PROPERTIES AND RANGE OF APPLICATION

Description of the Products

The **PROMOX P211TX** is a new formulation of MethylEthylketone peroxide (CAS 1338-23-4) solution in plasticizers, Phthalates free. It is used for the curing process of unsaturated polyester resins together with various accelerating systems.

The **PROMOX P211TX** is new and innovative formulation Phthalates free. The new flegmatizers employed for this kind of formulations are totally safe. Due to that users will not have further risks during the manipulation, use and disposal of this solution. The **PROMOX P211TX** is formulated with 2,2,4-trimethyl-1,3-pentanediol diisobutyrate as flegmatizer. It is a colourless liquid with very low vapor pressure that does not evaporate appreciably at room temperature. This additive is ideally suited for phthalates-free applications.

Accelerators and Promoters

The **PROMOX P211TX** is used in most production cycles at temperature ranging from 15 to 80 degrees centigrade. The concentration of use generally ranges from 1 to 2 part /100 parts of resin. Generally cobalt salts (octoate, naphtenate) are used but seldom vanadium o manganese salts. The accelerator performances can be improved by adding promoters which exalt their action.

Uses and Contraindications

PROMOX P211TX is a peroxide for general uses with a high-range cross-linking activity. It is a peroxide for general uses, with a low content in not reacted raw materials. It is particularly useful for the curing of orthophthalic and polyester resins while it is advisable to use it neither with isophthalic, bisphenolic, vinilesters resins nor with the gel coats.

It's a general purpose MEKP with Medium reactivity. **Application sectors:** Polyester resins, Gel & Top Coats, Bonding Pastes. **At Ambient temperature:** Hand lay-up and Spray lay-up, RTM technologies, Cold press moulding, Buttons, Vacuum bag or Infusion, Polyester concrete and Marble. **At Elevated temperature:** Continuous Lamination, Filament Winding, Centrifugal Casting.

Packaging

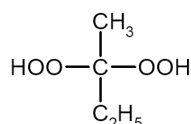
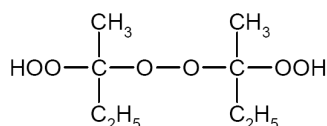
Promox peroxides are normally packaged in 25 kg polyethylene drums. Smaller packaging is available as requested. Drums are palletised from 600 to 900 Kg weight net.

Stability

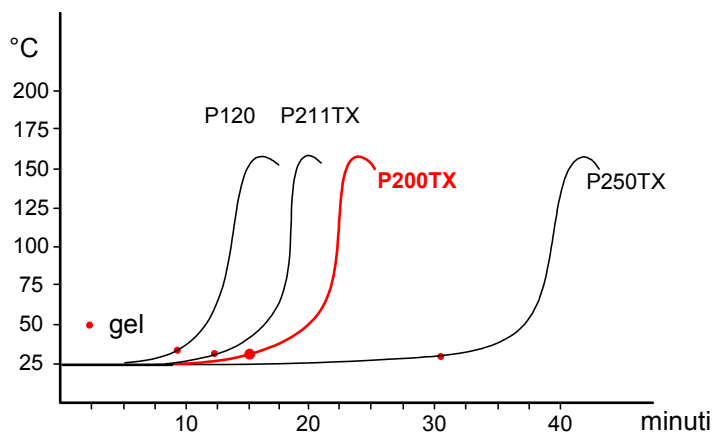
The product is stable under normal storage conditions for at least six months from the date of production.

Storage

When the product is stored under recommended storage conditions, it keeps the original properties for a period of at least six months after delivery. **Recommended storage Temperature: < 30°C.**



HOOH



PHYSICAL AND CHEMICAL PROPERTIES

General information

Characteristic	Characteristic	Characteristic
Appearance	-	Liquid
Colour - Odour	-	Colourless - Characteristic
Active oxygen content	%	9,8 – 9.9
Peroxide Content		> 30 %
Flegmatizer – Phthalates Free Content	%	> 50 %

Other information

Characteristic	Characteristic	Characteristic
Boiling point/ interval	°C	100°C decompose !
Flash point (closed cup)	°C	> 60°C
Flammability ASTM D-4206-96(2001)	-	Decomposition products may be flammable.
SADT (Self Accelerated Decomposition Temperature)	°C	> 65°C
Relative density UNI EN ISO 12185-00	d 20/20	1,0116 (SSC 2010)
Viscosity at 20 °C ISO UNI EN 3104	mPa.s	12 – 14 (SSC 2010)

PRINCIPAL RISK

Principal risk	It may cause fire. Harmful if swallowed. Causes burns.
Health effects – Eye	Contact with eyes causes injury to the cornea and eyelids.
Health effects – Skin	Contact with skin causes burns.
Health effects – Ingestion	Swallowing causes corrosion to oral cavity, pharynx and to alimentary canal.
Health effects – Inhalation	Reduced inhalation risk.

STABILITY AND REACTIVITY

Storage Stability	The product is stable under the recommended conditions of Storage and Manipulation. Under the recommended conditions of maintenance the product maintains unchanged his own characteristics for a long period of storage, more than 6 months. Store in fresh place, well aired, in the closed original containers, away from every sources of heat, from inflammable/incompatible substances.
Reactivity	It can rapidly decompose if heated or mixed with other incompatible chemical compounds. Product decomposition is detected by temperature increase and fumes emission. The oxygen developed during the decomposition phase, in case of fire, may support the combustion of flammable products.
Conditions to avoid	It can rapidly decompose if heated or mixed with other incompatible chemical compounds. It is therefore necessary to avoid the product coming into contact with all kinds of acids and alkalis, especially if in a concentrated form; any oxidizers, any peroxides and all organic and flammable compounds. Store in a well ventilated place away from sources of heat and direct sunlight.
Decomposition products	The main products of the decomposition/combustion process are: hydrocarbons, oxygen, Carbon dioxide and carbon monoxide, water. The product is stable under normal storage conditions. No hazardous decomposition products if used and stored according to specifications. Do not inhale explosion gases or combustion gases.

TOXICOLOGICAL INFORMATION

METHYL ETHYL KETONE PEROXIDE – 2 BUTANONE PEROXIDE (35% solution in Dimethyl phthalate)

Acute toxicity - Oral	LD50 oral - (lethal dose rat)	1017 mg/Kg bw
Acute toxicity - Inhalation	LC50 (lethal concentration rat)	28 ppm/4h
Acute toxicity - Dermal	LD50 (lethal dose rat)	> 4000 mg/Kg
Eye irritation	(rabbit)	Extremely irritant/ corrosive
Skin irritation	(rabbit)	Corrosive
Genotoxicity "in vitro" (Ames test)		Negative

ECOLOGICAL INFORMATION

METHYL ETHYL KETONE PEROXIDE – 2 BUTANONE PEROXIDE (35% solution in Dimethyl phthalate)

Acute toxicity EC50 bacteria	48 mg/l	
Acute toxicity EC50 crustaceans (daphnia magna 24h)	n.d.	
Acute toxicity LC50 fish (poecilia reticulata 96h)	44.2 mg/l	
Mobility	Air	Poorly volatile
	Water	Partly soluble in water
	Soil	Possible absorption
Persistence and degradation		Easily biodegradable
Bioaccumulation potential (log Pow)		Little bioaccumulable – log Pow=2

HANDLING AND FIRST MEASURES

Personal precautions	The working area shall be provided with suitable ventilation system in order to keep the product concentration rate in the air at a low level. Wear suitable protective gloves of neoprene or synthetic rubber. Wear eye/face protection during pouring.
Handling	Apply the legislation regarding the Industrial Hygiene/Safety job. During the operation use the individual protective devices. Do not allow operators to use naked flames, to produce sparks or to smoke inside the rooms where the product is handled and stored. Do not breathe fumes/vapours. Avoid loss and/or disperses. Keep container tightly sealed. Keep away from dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e.g. heavy metal compounds and amines) those can cause the decomposition of the product. Avoid peroxide refilling into its original container. The containers used to collect and pour out the product are to be kept scrupulously clean.
First aid - Inhalation	Take the injured person away from the contaminated area. If the injured person shows any signs of breathing-insufficiency, give artificial respiration by means of a self-expanding balloon mask (AMBU). Immediately take the injured person to the nearest first-aid post.
First aid - Skin	Remove the accidentally contaminated clothes immediately, wash any affected skin area with plenty of lukewarm water and soap. Should there be persistent skin reddening or irritation, take the injured person to the nearest first-aid post for burns treatment.
First aid - Eyes	Wash immediately with plenty of running keeping the eyelid always far from the eye. Immediately take the injured person to an oculist. Do not treat injured eyes with any ointments or oils.
First aid - Ingestion	Do not induce vomiting. Rinse mouth with water and immediately take him to the nearest first-aid post.
Extinguishing media	Suitable Extinguishing Media: Water Spray, alcohol resistant foam, powder, CO₂. Fight larger fires with Water Spray or alcohol resistant foam. Unsuitable Extinguishing Media: Halones, Water with full jet . Always use water as an extinguisher, preferably broken up, keeping windward and at a safe distance. Cool down both the containers which have been involved in the fire and the surrounding area. Do not start cleaning the area or salvaging the goods before the whole area has completely cooled down. In case of product decomposition, this is detectable by the formation of fumes and by containers overheating, cool down with water.
Methods for cleaning up	Do not allow to enter drains or water courses. Collect as much as possible in a clean container for (preferable) reuse or disposal. Cover the remainder with inert absorbent (e.g. vermiculite) or hearth for disposal. Never try to recover the discharged product, or reintroduce it into its original containers. Large quantities should be diluted with suitable desensitization agent to a concentration below 10 % before disposal. After the pick up of the product neutralize with soda or lime and dilute with water avoiding excessive liquid waste dispersion. Follow the recommendations of Section 13. In case of large spillage the environmental authority should be informed.

For any further information, refer to the safety data sheet of the product, according to Directive 1907/2006.

REGULATORY INFORMATION

Warning Symbols:


O - Oxidizing



C - Corrosive

Risk phrases

R7: May cause fire. **R22:** Harmful if swallowed. **R34:** Causes burns.

Safety phrases

S3/7: Keep container tightly closed in a cool place. **S14:** Keep away from reducing agents, alkali and compounds with heavy metal bases (e.g. accelerators). **S16:** Keep away from sources of ignitions. No smoking. **S26:** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. **S36/37/39:** Wear suitable protective clothing, gloves and eye/face protection. **S45:** In case of accident or if you feel unwell, seek medical advice immediately (Show the label where possible). **S50:** Do not mix with accelerating agents or promoters.

All suggestions included in this safety information card are the summary of the most reliable data available at the moment. It is however impossible to guarantee that these instructions are sufficient and/or valid for any application, some data are still in review. They are informative, they do not represent any guarantee of the characteristics of the product and they do not motivate any contractual legal relationship. The directory of the law witnesses and regulations does is not to be considered like exhausting. For any further information, users may directly contact the Promox Technical Service.

PROMOX S.P.A.

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Historical
Revision 00

Revision date
01.02.2010

Print date
01.02.2010

Department issuing MSDS – Object: MSDS
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