



MATERIAL SAFETY DATA SHEET - CATALYST

SECTION 1: MATERIAL AND SUPPLIER IDENTIFICATION

Product name: **Muros Catalyst**
Chemical name: Methyl Ethyl Ketone Peroxide (MEKP)
Application/ Use: A hardening agent when combined with Muros Mastic (soft putty)
Company name: Muros International Limited
Address: Suite 9, 349 Remuera Office Suites, Remuera, Auckland 1050
PO Box 90239, Victoria Street West, Auckland 1142, New Zealand
Contact: Tel +64-9-523 3433
Email design@muros.co.nz
Emergency contact: National Poisons Centre
(in case of poisoning) **Tel 0800-764 766 (NZ) and 13 11 26 (Australia)**

SECTION 2: HAZARDS IDENTIFICATION

NEW ZEALAND HAZARDOUS SUBSTANCES CLASSIFICATION: Classified as hazardous according to criteria in the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

Refer to Section 15 for HSNO Approval Number.

HSNO Classifications: 5.2D, 6.1D, 8.2B, 8.3A, 9.1B, 9.3C

Potential Health Effects

Inhalation

Inhalation of mists will result in respiratory irritation and possible harmful corrosive effects including lesions of the nasal septum, pulmonary edema, pneumonitis and emphysema.

Ocular

Eye contact will cause stinging, blurring, tearing, severe pain and possible permanent corneal damage.

Dermal

Skin contact will cause redness, itching, irritation, severe pain and chemical burns with resultant tissue destruction.

Ingestion

Harmful if swallowed. Ingestion of this product may cause nausea, vomiting, abdominal pain and chemical burns to the mouth, throat and stomach.

Oxidising - Contact with combustible materials may cause fire.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Harmful to terrestrial vertebrates.

SECTION 3: COMPOSITION/ INFORMATION ON INGREDIENTS

	CAS No	Proportion
Dimethyl Phthalate	131-11-3	50-100
Methyl Ethyl Ketone Peroxides	1338-23-4	10-35
4-Hydroxy 4-Methylpentan-2-one	123-42-2	0-10

SECTION 4: FIRST AID MEASURES

Inhalation

Remove the patient immediately to an area with fresh air. Ensure airways are clear and have qualified person give oxygen through a face mask if breathing is difficult. Apply artificial respiration if not breathing. Seek medical attention.

Skin contact

Immediately remove contaminated clothing and wash affected area with soap and water. Seek immediate medical attention.

Eye contact

If contact with eye occurs, wash with copious amounts of water for approximately 15 minutes holding eyelids open. Take care not to rinse contaminated water into the non-affected eye. If symptoms persist seek medical attention.

Ingestion

Do not induce vomiting. Wash out mouth with water. If symptoms develop seek immediate medical attention.

First aid facilities

An eye wash fountain, safety shower and a general washing facility should be available adjacent to the work area.

Medical attention

Treat symptomatically

Other information

For advice, contact a Poisons Information Centre - Tel 0800 764 766 (NZ) and 13 11 26 (Australia) or a doctor.

SECTION 5: FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA & METHODS:

Use water fog, foam or dry agent. Water spray may be used to cool fire-exposed containers.

Restrict entry of unauthorised personnel.

Precautions in connection with Fire: Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode.

Unusual Fire and Explosion Hazards: Contact with incompatible materials or exposure to temperatures exceeding the SADT (self-accelerating decomposition temperature 60 degrees celcius) may result in self accelerating decomposition reaction with release of flammable vapours which may autoignite.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions

Keep away from ignition sources. Wear appropriate breathing apparatus and full protective clothing to minimise skin and eye exposure.

Environmental precautions

Do not allow product to enter drains, sewers or waterways.

Methods for cleaning up

Do not dilute material, but contain. Place inert, non-combustible absorbent material onto the spillage. Collect the material using clean non-sparking tools and place into a suitable labelled container for subsequent disposal. If large quantities of this material enter the waterways contact the environmental protection authority, or your local water management authority.

SECTION 7: HANDLING AND STORAGE

Handling

Repeated or prolonged contact with this material should be avoided in order to lessen the possibility of skin disorders. It is essential that all who come into contact with this material maintain high standards of personal hygiene i.e. washing hands prior to eating, drinking or going to the toilet. Build-up of mists in the working atmosphere must be prevented.

Storage

Use non-combustible construction materials. Keep away from heat and sources of ignition. Store well away from other dangerous substances. Store in a well-insulated area (peroxide area) away from other substances. Store at temperature below 38°C to maintain stability and active oxygen content. Protect from contamination- Use only very clean containers and equipment free from traces of impurities. Keep only in original container. Never return unused product to original container. Do not reuse empty packaging to store other products. Provide a catch-tank in a bunded area. Provide electrical earthing of equipment and electrical equipment useable in explosive atmospheres. For information on the design of the storeroom reference should be made to Australian Standard AS 2714-2008: The storage and handling of hazardous chemical materials - Class 5.2 substances (organic peroxides).

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure limits

Dimethyl Phthalate	TWA 5 mg/m ³
Methyl Ethyl Ketone Peroxides	TWA 1.5 mg/m ³ , 0.2 ppm (peak limitation)
4-Hydroxy 4-Methylpentan-2-one	TWA 238 mg/m ³ , 50 ppm

Peak limitation: a ceiling concentration which should not be exceeded over a measurement period which should be as short as possible but not exceeding 15 minutes.

Absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

Engineering controls

Use only in a well ventilated area. Use a non-sparking, grounded ventilation system separate from other exhaust ventilation systems. If local exhaust ventilation is used, ensure sufficient air is replaced to compensate the air that has been removed.

Respiratory protection

If engineering controls are not effective in controlling airborne exposure then respiratory protective equipment should be used suitable for protecting against airborne contaminants. Final choice of appropriate breathing protection is dependent upon actual airborne concentrations and the type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision.

Reference should be made to Australian/New Zealand Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices.

Clothing/ Gloves

Wear gloves of impervious material conforming to AS/NZS 2161:

Occupational protective gloves - Selection, use and maintenance. Final choice of appropriate glove type will vary according to individual circumstances. This can include methods of handling, and engineering controls as determined by appropriate risk assessments. Wear appropriate clothing including chemical resistant apron where clothing is likely to be contaminated. It is advisable that a local supplier of personal protective clothing is consulted regarding the choice of material.

Eye protection

Safety glasses with side shields, goggles or full-face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances ie. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

Work/hygienic practices

Do not eat, drink, or smoke while working with this product. Wash hands before breaks and immediately after handling the product. Do not breathe mists/vapours. Take off contaminated clothing and shoes immediately. Launder soiled clothes. Provide emergency eye bath and safety shower.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear liquid, ketone odour
Flash point:	78°C (Seta Flash)
Melting point/range:	Not available
Boiling point/range:	Not available
Decomposition temp:	SADT 60°C
Specific gravity:	1.158 at 20°C (water = 1)
Volatile component:	98% VOC
Solubility (water):	Slight
Refractive index:	1.478 @ 25°C
Active oxygen:	9.2%

SECTION 10: STABILITY AND REACTIVITY

Chemical stability

Stable under recommended conditions for storage and handling. Contact with strong oxidising agents, strong acids, transition metal salts, accelerators/promoters and reducing agents may result in a violent decomposition reaction or in product degradation.

Conditions to avoid

Temperatures above 38°C. Product may cause fire. Keep away from sources of ignition.

Materials to avoid

Strong oxidising agents, strong acids, transition metal salts, accelerators/promoters and reducing agents.

Hazardous decomposition

Temperature at or above SADT can result in the release of harmful decomposition products which are flammable and may auto ignite.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute oral toxicity:	Harmful if swallowed.
LD50 oral, rat:	Approx 1700 mg/kg from mixture rules on components.
Inhalation:	Inhalation of mists will result in respiratory irritation and possible harmful corrosive effects including lesions of the nasal septum, pulmonary edema, pneumonitis and emphysema.
Eye irritation:	Contact with eyes causes stinging, blurring, tearing, severe pain and potential permanent corneal damage.

SECTION 12: ECOLOGICAL INFORMATION

Prevent this material entering waterway, drains and sewers. Methyl Ethyl Ketone Peroxides are classified as Ecotoxic to the aquatic environment. Product is harmful to terrestrial vertebrates.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT flush into sanitary sewer or waterway. Dispose of substance and packaging through a licensed waste disposal agency in accordance with local authority bylaws.

SECTION 14: TRANSPORT INFORMATION

Road and Rail Transport: Classified as a Dangerous Good according to NZS5433:2007 Transport of Dangerous Goods on Land.

UN No: 3105

Class-primary: 5.2 Organic Peroxide

Packing Group: II

Proper Shipping Name: ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYLKETONE PEROXIDE)

Hazchem Code: 2WE

Marine Transport: Marine Transport Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN No: 3105

Class-primary: 5.2 Organic Peroxide

Packing Group: II

Proper Shipping Name: ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYLKETONE PEROXIDE)

Air Transport: Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN No: 3105

Class-primary: 5.2 Organic Peroxide

Packing Group: II

Proper Shipping Name: ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYLKETONE PEROXIDE)

SECTION 15: REGULATORY INFORMATION

HSNO Group Standard: Organic Peroxides, corrosive. Group Standard 2006

HSNO Approval Number: HSR002630

5.2D Organic Peroxide, Type D

6.1D Acutely Toxic

8.2B Corrosive to skin

8.3A Corrosive to eyes

9.1B Ecotoxic to aquatic organisms

9.3C Harmful to terrestrial vertebrates

This substance requires Approved Handlers and a Location Certificate when present at quantities of 10L or more. This substance does not require Tracking.

SECTION 16: DISCLAIMER

The information provided in this Safety Data Sheet relates only to the specific material designated herein. This substance is approved under HSNO for use as a hardening (crosslinking) agent.

All chemical materials may present unknown hazards as people have varying degrees of sensitivity to chemicals. Therefore this product should be used with caution. The information herein is given in good faith, but no warranty, express or implied is made. The information contained herein is based on the present state of our knowledge and does not therefore guarantee certain properties. Muros International Ltd has compiled the information and recommendations contained in this Safety Data Sheet from sources believed to be reliable and to represent the most reasonable current opinion on the subject at the date of publishing this Safety Data Sheet.

No warranty, guarantee or representation is made as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products, and determine the environmental regulatory compliance obligations under any applicable New Zealand laws. In providing this disclaimer Muros International Ltd removes itself from any responsibility/liability of damages/harm caused by the information or lack thereof in this Safety Data Sheet document.