

# MATERIAL SAFETY DATA SHEET

Hazardous according to criteria of ASCC Australia

## MEKP

### IDENTIFICATION

Substance: Organic peroxide in dimethyl phthalate carrier.  
Trade Name: Butanox M-50 & Butanox MEKP  
MSDS Code: 4828211  
Product Use: Oxidising agent used in chemical manufacture and polymer initialisation systems.

### HEALTH HAZARD INFORMATION

This product is classified as: Hazardous according to the criteria of ASCC Australia. Dangerous according to the Australian Dangerous Goods (ADG) Code.  
Risk Phrases: R7, R22, R34, R41. May cause fire. Harmful if swallowed. Causes burns. Risk of serious damage to eyes.  
Safety Phrases: S14, S20, S28, S45, S50, S24/25, S36/37/39.  
Keep away from reducing agents (eg amines), acids, alkalis and heavy metal compounds (eg accelerators, driers and metal soaps). When using, do not eat or drink. After contact with skin, wash immediately with plenty of soap and water. In case of accident or if you feel unwell, contact a doctor or Poisons Information Centre immediately (show the label where possible). Do not mix with peroxide-accelerators or reducing agents. Avoid contact with skin and eyes. Wear suitable protective clothing, gloves and eye/face protection.  
SUSDP Classification: S5  
ADG Classification: Class 5.2 (ORGANIC PEROXIDE TYPE D, LIQUID)  
UN Number: 3105

### Emergency Overview

Physical Description & colour: Clear, colourless liquid.  
Odour: Faint odour  
Major Health Hazards: Causes burns, may cause serious damage to eyes, harmful if swallowed.

### Potential Health Effects

Inhalation:  
Short term exposure: Available data indicates that this product is not harmful. In addition product is unlikely to cause any discomfort or irritation.  
Long Term exposure: No data for health effects associated with long term inhalation.  
Skin Contact:  
Short term exposure: Product is corrosive to the skin. Capable of causing moderate to severe burns with ulceration. Can penetrate to deeper layers of skin, resulting in third degree burns. Corrosion will continue until product is removed or neutralised. Severity depends on concentration and duration of exposure. Burns may not be immediately painful; the onset of pain may be minutes to hours.  
Long Term exposure: No data for health effects associated with long term skin exposure.

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### HEALTH HAZARD INFORMATION (Cont.)

**Eye Contact:**  
**Short term exposure:** This product may be absorbed through the eyes in harmful quantities. Symptoms are similar to those via other exposure routes. In addition product is corrosive to eyes. It will cause severe pain, and corrosion of the eye and surrounding facial tissues. Unless exposure is quickly treated, permanent blindness and facial scarring is likely.

**Long Term exposure:** No data for health effects associated with long term eye exposure.

**Ingestion:**  
**Short term exposure:** Significant oral exposure is considered to be unlikely. Available data shows that this product is harmful, but symptoms are not available. This product is unlikely to cause any irritation problems in the short or long term.

**Long Term exposure:** No data for health effects associated with long term ingestion.

**Carcinogen Status:**  
**ASCC:** No significant ingredient is classified as carcinogenic by ASCC.  
**NTP:** No significant ingredient is classified as carcinogenic by NTP.  
**IARC:** No significant ingredient is classified as carcinogenic by IARC.

### INGREDIENTS

| Ingredients                  | CAS No    | Conc, % | TWA (mg/m <sup>3</sup> ) | STEL (mg/m <sup>3</sup> ) |
|------------------------------|-----------|---------|--------------------------|---------------------------|
| Methyl ethyl ketone peroxide | 1338-23-4 | 33      | 1.5                      | Peak                      |
| Dimethylphthalate            | 131-11-3  | 65      | 5                        | not set                   |
| Methyl ethyl ketone          | 78-93-3   | 1       | 445                      | 890                       |

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

### FIRST AID MEASURES GENERAL INFORMATION

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.

**Inhalation:** First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

**Skin Contact:** Quickly and gently blot away excess liquid. Flush contaminated area with lukewarm, gently flowing water for at least 20-30 minutes, by the clock. DO NOT INTERRUPT FLUSHING. If necessary, keep emergency vehicle waiting (show paramedics this MSDS and take their advice). Under running water, remove contaminated clothing, shoes and leather goods (eg watchbands and belts). If irritation persists, repeat flushing. Seek medical attention.

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### FIRST AID MEASURES GENERAL INFORMATION (Cont.)

**Eye Contact:** Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 20-30 minutes, by the clock, while holding the eyelid(s) open. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. If necessary, keep emergency vehicle waiting (show paramedics this MSDS and take their advice). Take care not to rinse contaminated water into the unaffected eye or onto face. If irritation persists, repeat flushing. Call a Poisons Information Centre or a doctor urgently. Take special care if exposed person is wearing contact lenses.

**Ingestion:** If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

### FIRE FIGHTING MEASURES

**Fire and Explosion Hazards:** This product is classified as flammable. There is a moderate risk of an explosion from this product if commercial quantities are involved in a fire. Firefighters should take care and appropriate precautions. This product will intensify any fire that it is involved in. The presence of this product in a fire is likely to intensify the fire due to its oxidising properties.  
Fire decomposition products from this product are likely to be toxic if inhaled. Take appropriate protective measures.

**Extinguishing Media:** Preferred extinguishing media are carbon dioxide, foam, water fog. Water fog or fine spray is the preferred medium for large fires. Ensure that no spillage enters drains or water courses.

**Fire Fighting:** Immediately evacuate the area of unnecessary personnel. Flash point: 52°C (Setaflash ISO 3697)

**Upper Flammability Limit:** No data.

**Lower Flammability Limit:** No data.

**Autoignition temperature:** No data.

**Flammability Class:** Flammable

### ACCIDENTAL RELEASE MEASURES

**Accidental release:** In the event of a major spill, prevent spillage from entering drains or water courses. Evacuate the spill area and deny entry to unnecessary and unprotected personnel. Immediately call the Fire Brigade. Wear full protective chemically resistant clothing including eye/face protection, gauntlets and self contained breathing apparatus. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include butyl rubber, neoprene, Teflon. Eye/face protective equipment should include a fully enclosed helmet. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8). Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill

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### ACCIDENTAL RELEASE MEASURES (Cont.)

Accidental release (Cont.): is too large or if absorbent material is not available, try to create a dike to stop materials spreading or going into drains or waterways. Under no circumstances should sawdust or other combustible material be used. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Slippery on floors, especially when wet. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. This material may be suitable for approved landfill. Dilute before burning with organic solvents. Controlled incineration according to local regulations is always preferred. If not possible burn in small portions on a remote place, using a torch with a long rod to ignite the material. The waste should NOT be confined. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

### HANDLING AND STORAGE

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section – Stability and Reactivity.

Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Store in a cool, well ventilated area. Check containers periodically for corrosion and leaks. Containers should be kept closed in order to minimise contamination, especially from combustible, polymerisable or reducing materials. Make sure that the product does not come into contact with or substances listed under "Incompatibilities" in Section 10. If you keep more than 25kg of Organic Peroxides, you are probably required to license the premises or notify your Dangerous Goods authority so. If you have any doubts, we suggest you contact your Dangerous Goods authority in order to clarify your obligations. Check packaging - there may be further storage instructions on the label.

### EXPOSURE CONTROLS AND PERSONAL PROTECTION

The following Australian Standards will provide general advice regarding safety clothing and equipment:  
 Respiratory equipment: AS/NZS 1715, Protective Gloves: AS 2161, Industrial Clothing: AS2919, Industrial Eye Protection: AS1336 and AS/NZS 1337, Occupational Protective Footwear: AS/NZS2210.

| <u>Exposure Limits</u>       | <u>TWA (mg/m3)</u> | <u>STEL (mg/m3)</u> |
|------------------------------|--------------------|---------------------|
| Methyl ethyl ketone peroxide | 1.5                | Peak                |
| Dimethylphthalate            | 5                  | not set             |
| Methyl ethyl ketone          | 445                | 890                 |

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

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### EXPOSURE CONTROLS AND PERSONAL PROTECTION (Cont.)

|                  |  |
|------------------|--|
| Ventilation:     | This product should only be used where there is ventilation that is adequate to keep exposure below the TWA levels. If necessary, use a fan.   |
| Eye Protection:  | Your eyes must be completely protected from this product by splash resistant goggles with face shield. All surrounding skin areas must be covered. Emergency eye wash facilities must also be available in an area close to where this product is being used.  |
| Skin Protection: | Because of the dangerous nature of this product, make sure that all skin areas are completely covered by impermeable gloves, overalls, hair covering, apron and face shield. See below for suitable material types. Protective Material Types: We suggest that protective clothing be made from the following materials: butyl rubber, neoprene, Teflon. |
| Respirator:      | Where there is a risk of exposure to this product, we recommend that you use a respirator. It should be fitted with a type A cartridge, suitable for organic vapours. Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being used.  |

### PHYSICAL AND CHEMICAL PROPERTIES

|                                |  |
|--------------------------------|--|
| Physical Description & colour: | Clear, colourless liquid.                                  |
| Odour:                         | Faint odour.   |
| Boiling Point:                 | Decomposes.  |
| Freezing/Melting Point:        | Liquid at normal temperatures. Becomes turbid below -10°C. |
| Volatiles:                     | No data. Expected to be nil at 100°C.                      |
| Vapour Pressure:               | No data.   |
| Vapour Density:                | No data.   |
| Specific Gravity:              | 1.18   |
| Water Solubility:              | Partly miscible.   |
| pH:                            | Corrosive.   |
| Volatility:                    | No data.   |
| Odour Threshold:               | No data.   |
| Evaporation Rate:              | No data.   |
| Coeff Oil/water distribution:  | No data.   |
| Autoignition temp:             | No data.   |

### STABILITY AND REACTIVITY

|                      |   |
|----------------------|---|
| Reactivity:          | This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.  |
| Conditions to Avoid: | This product should be kept in a cool place, preferably below 30°C. Keep containers tightly closed. Keep containers and surrounding areas well ventilated. Keep away from heat, flames and sparks. Keep away from sources of sparks or ignition. Handle and open containers carefully.  |
| Incompatibilities:   | Acids, bases, reducing agents, heavy metal compounds (eg accelerators, driers and metal soaps). Do not mix with peroxide-accelerators. Avoid contact with rust. Confinement must be avoided. Use only Stainless steel 316, PVC, polyethylene or glass-lined equipment. .  |
| Fire Decomposition:  | Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Water, acetic, formic and propionic acids, methyl ethyl ketone,. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death. |

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### STABILITY AND REACTIVITY (Cont)

Polymerisation: This product will not undergo polymerisation reactions.

### TOXICOLOGICAL INFORMATION

Local Effects:

Target Organs: none known

### Classification of Hazardous Ingredients

| <u>Ingredient</u>            | <u>Risk Phrases</u> |
|------------------------------|---------------------|
| Methyl Ethyl Ketone Peroxide | RWS0                |
| Dimethylphthalate            | RWS0                |
| Methyl Ethyl Ketone          | Conc>=20%: Xi; R36  |

### ECOLOGICAL INFORMATION

Insufficient data to be sure of status.

### DISPOSAL CONSIDERATIONS

Disposal: There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. The Hierarchy of Controls seems to be common - the user should investigate: Reduce, Reuse, and Recycle and only if all else fails should disposal be considered. Note that properties of a product may change in use, so that the following suggestions may not always be appropriate. The following may help you in properly addressing this matter for this product. This product may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to separate the contamination in some way. Only if neither of these options is suitable, consider landfill, but we recommend that it be neutralised in a controlled manner before disposal.

### TRANSPORT INFORMATION

|                        |                                       |
|------------------------|---------------------------------------|
| ADG Code:              | 3105, ORGANIC PEROXIDE TYPE D, LIQUID |
| Hazchem Code:          | 2WE                                   |
| Special Provisions:    | SP122, SP274                          |
| Dangerous Goods Class: | Class 5.2, Organic peroxides.         |
| Packaging Group:       | II                                    |
| Packaging Method:      | 3.8.5.2, OP1, OP7                     |

Class 5.2 Organic Peroxides shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 2.1 (Flammable Gases), 2.2 (Non-Flammable, Non-Toxic Gases), 2.3 (Toxic Gases), 3 (Flammable Liquids), 4.1 (Flammable Solids), 4.2 (Spontaneously Combustible Substances), 4.3 (Dangerous When Wet Substances), 5.1 (Oxidising Agents), 6 (Toxic Substances, where the Toxic Substance is a fire risk substance), 7 (Radioactive Substances), 8 (Corrosive Substances), 9 (Miscellaneous Dangerous Goods, where the substance is a fire risk substance), Fire risk substances other than Dangerous Goods. They may however be loaded in the same vehicle or

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### TRANSPORT INFORMATION (Cont.)

packed in the same freight container with Classes 6 (Toxic Substances except where the substances are fire risk substances), 9 (Miscellaneous Dangerous Goods except where the goods are fire risk substances) Foodstuffs and foodstuff empties.

### REGULATORY INFORMATION

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.  
 The following ingredients: Methyl ethyl ketone peroxide, Methyl ethyl ketone, are mentioned in the SUSDP.

### OTHER INFORMATION

This MSDS contains only safety-related information. For other data see product literature.

|              |   |
|--------------|---|
| Acronyms:    |   |
| ADG Code     | Australian Code for the Transport of Dangerous Goods by Road and Rail Australian                                    |
| AICS         | Inventory of Chemical Substances  |
| ASCC         | Office of the Australian Safety and Compensation Council  |
| CAS number   | Chemical Abstracts Service Registry Number  |
| Hazchem Code | Emergency action code of numbers and letters that provide information to emergency services especially firefighters |
| IARC         | International Agency for Research on Cancer   |
| NOS          | Not otherwise specified   |
| NTP          | National Toxicology Program (USA)   |
| R-Phrase     | Risk Phrase   |
| SUSDP        | Standard for the Uniform Scheduling of Drugs & Poisons  |
| UN Number    | United Nations Number   |

Please read all labels carefully before using product

### CONTACT POINT

Contact Point  
 Technical Manager 03 9579 2044.

**Disclaimer** THIS MSDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS MSDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS

OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.