



CADOX M-50A

SAFETY DATA SHEET (SDS)

Section 1 - Identification of the Preparation and the Company

Product Name: **Cadox M-50A**

Other Names: None

This product is classified as hazardous according to the criteria of Safe Work Australia.

Classified as a Dangerous Good according to the Australian Dangerous Goods Code (ADG).

Uses: Curing agent used in fibre glassing

Manufacturer: Summit Composites Pty Ltd

Address

Country

Telephone

Facsimile

Website

Poisons Information Centre

Western Australia

22 Port Kembla Drive

Bibra Lake WA 6163

+ 61 8 9418 4555

+ 61 8 9434 1489

<http://summitcomposites.com.au/>

Australia 131 126; New Zealand 0800 764 766

Victoria

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Dandenong South Vic 3175

+61 3 9792 2855

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Section 2 – Hazards Identification

DANGER



Highly Flammable



Corrosive

Hazard Statements

Organic peroxide Type D

Acute Toxicity (oral) Category 4

Acute Toxicity (dermal) Category 5

Acute Toxicity (inhalation, vapour) Category 4

Eye Irritant Category 1

Skin Irritant Category 1B

Aquatic environment acute Category 3

H242: Heating may cause a fire or explosion

H302: Harmful if swallowed

H313: May be harmful in contact with skin

H314: Causes severe burns and eye damage

H332: Harmful if inhaled

H402: Harmful to aquatic life

Precautionary Statements

Prevention

P202 Do not handle until all safety precautions have been read and understood

P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking

P220: Keep / store away from dirt, rust, chemicals, in particular reducing agents (e.g. amines), acids, alkalis and heavy metal compounds such as accelerators, driers and metal soaps, clothing, flammable and combustible materials

P234: Keep only in original container

P260 Do not breathe vapours / mists / spray

P264 Wash hands and exposed skin thoroughly after handling

P270 Do not eat, drink or smoke when using this product

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothes should not be allowed out of the workplace

P273 Avoid release to the environment

P280 Wear protective gloves/eye protection/face protection See Section 8.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

P302 + P352 IF ON SKIN: Take off immediately all contaminated clothing. Wash with plenty of soap and water

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P305 + P313 + P351 + P337 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention

P310 Immediately call a POISON CENTRE or doctor / physician

P370 + P378 In case of fire: Use water spray, sand, carbon dioxide, dry chemical or foam for extinction



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Storage

P403 + P235 Store in a well-ventilated place. Keep cool

P410 Protect from sunlight

Disposal

P501 Dispose of contents/container according to local regulations

Section 3 - Composition/Information on Ingredients

Ingredient(s)	CAS-number	%wt
2,2,4-Trimethyl-1,3-pentanediol diisobutanoate	6846-50-0	60-70
Methyl ethyl ketone peroxide	1338-23-4	30-35
Hydrogen peroxide	7722-84-1	1-3
Methyl ethyl ketone	78-93-3	1-2
Water	7732-18-5	0.1-2

Section 4 – First Aid Measures

Ingestion:

NEVER GIVE AN UNCONSCIOUS PERSON ANYTHING TO DRINK NOR ATTEMPT TO INDUCE VOMITING. If the person is conscious, rinse mouth out with water ensuring that mouthwash is not swallowed. Give about 250mL (2 glasses) of water to drink. DO NOT attempt to induce vomiting. Seek URGENT medical attention. For advice, contact a Poisons Information Centre (phone e.g. Australia 131 126; New Zealand 0800 764 766).

Inhalation:

Remove to fresh air. Keep warm and at rest. If breathing is laboured, hold in a half upright position (this assists respiration). Apply artificial respiration if breathing has stopped. Seek URGENT medical attention for all but the most minor cases of over-exposure.

Eye Contact:

If in eyes, IMMEDIATELY hold eyelids apart and flush the eye continuously with running water. Take care not to rinse contaminated water into the unaffected eye or onto face. DO NOT INTERRUPT FLUSHING. Seek URGENT medical attention. Continue flushing until advised to stop by the Poisons Information Centre or a doctor.

Skin Contact:

Remove contaminated clothing. Rinse the affected area with water then wash thoroughly with soap and water. Use water alone, if soap is unavailable. Seek medical attention if any soreness or inflammation of the skin persists or develops later. Launder affected clothing before re-use.

Additional Information:

First Aid Facilities: Eye wash station. Safety shower if large volumes are being handled.

Advice to Doctor: Treat symptomatically. This material is corrosive to the eyes and may cause delayed keratitis. The normally prescribed 15 minute eye irrigation after exposure may be difficult because of severe pain. The prior administration of a topical ocular anesthetic is essential to facilitate a comprehensive ocular lavage. If swallowed, do not induce vomiting. Give patient plenty of water to drink. Ingestion of this corrosive material may result in severe ulceration, inflammation and possible perforation of the upper alimentary tract with hemorrhage and fluid loss. Aspiration of this material during induced emesis can result in severe lung injury.

Entry Route(s): Inhalation, ingestion and skin contact.

Section 5 – Fire Fighting Measures

This product is classified as a C1 combustible liquid. It is thermally unstable and may undergo self-accelerating decomposition at elevated temperatures and containers may explode if heated. There is a moderate risk of an explosion from this product if commercial quantities are involved in a fire. Fire-fighters should take care and appropriate precautions. The presence of this product in a fire is likely to intensify the fire due to its oxidizing properties. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures. CAUTION; re-ignition may occur.

The SADT (self-accelerating decomposition temperature) is an experimentally derived temperature at which the product in a typical package will undergo self-accelerating decomposition. The SADT value for this product is 60°C.

In case of fire, evacuate personnel to safe areas. Avoid breathing vapours or fumes. Responders must be made aware of the nature of the hazard and must wear self-contained breathing apparatus and liquid-tight chemical protective clothing. If safe to do so, move undamaged containers from fire area but DO NOT approach containers suspected of being hot. Undamaged and sealed containers may be kept cool by spraying with water but direct contact with water should be



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avoided.

Extinguish using water mists, carbon dioxide; dry chemical; protein-based foam; or alcohol-resistant foam. Prevent, by any means possible, runoff from entering drains or water courses.

Section 6 – Accidental Release Measures

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, polyethylene and teflon. If there is a significant chance that vapours or mists are likely to build up in the clean-up area, use a respirator. It should be fitted with a cartridge, suitable for organic vapours. Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material 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. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Contaminated area may be neutralised by washing with weak or dilute reducing agent. This material may be suitable for approved landfill.

Test atmosphere for vapours to ensure safe working conditions before other personnel are allowed in the area. 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.

Section 7 – Handling and Storage

Storage:

Store in a cool, area with adequate ventilation. Keep in original containers. Keep containers tightly closed when not in use. Protect containers against physical damage. Class 5.2 Organic Peroxides shall not be transported or stored with:

Classes 1 (Explosives),
 Class 2.1 (Flammable Gases),
 Class 2.2 (Non-Flammable, Non-Toxic Gases),
 Class 2.3 (Toxic Gases), 3 (Flammable Liquids),
 Class 4.1 (Flammable Solids), 4.2 (Spontaneously Combustible Substances),
 Class 4.3 (Dangerous When Wet Substances),
 Class 5.1 (Oxidising Agents),
 Class 6 (Toxic Substances, where the Toxic Substance is a fire risk substance),
 Class 7 (Radioactive Substances),
 Class 8 (Corrosive Substances),
 Class 9 (Miscellaneous Dangerous Goods, where the substance is a fire risk substance),
 Foodstuffs and foodstuff empties.

Do not store in open containers. Damaged or punctured drums should be emptied and disposed of properly. Combustible Liquid according to AS1940 - Storage and Handling of Flammable and Combustible Liquids. Store in accordance with regulations for storage of combustible liquids. Keep cool, protect from sunlight.

Handling:

Eliminate all sources of ignition and do not generate flames or sparks. Keep product and empty container away from heat and sources of ignition. Keep away from reducing agents (e.g. amines), acids, alkalis and heavy metal compounds such as accelerators, driers and metal soaps, Use only with adequate ventilation. Provide general and / or local exhaust ventilation to ensure that the exposure standards for these materials are not exceeded. It is recommended that the concentrations in air be checked at regular intervals. Keep equipment clean. Avoid contact with the skin and eyes. Avoid breathing vapour. Do not eat, drink or smoke in the workplace.

For Personal Protective Equipment (PPE), see Section 8.

Section 8 – Exposure Controls/Personal Protection

Exposure standards: Exposure standards have not been allocated to this product. Information for the ingredients is:
 Methyl ethyl ketone peroxide TWA: 0.2 ppm, 1.5 mg/m³ Peak Limitation



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Hydrogen peroxide	TWA: 1.0 ppm, 1.4 mg/m ³
Methyl ethyl ketone	TWA: 150 ppm, 445mg/m ³ STEL: 300ppm, 890mg/m ³

Exposure standards represent airborne concentrations of individual chemical substances, which according to current knowledge, should neither impair the health nor cause undue discomfort to nearly all workers. Exposure standard may be a time-weighted average (TWA), a short-term exposure limit (STEL) or a peak level.

Engineering Controls:

Product may generate high vapour levels in confined or poorly ventilated areas.

Work should be undertaken in a purpose-built spray booth if available.

Ventilation systems should be installed and regularly monitored to ensure exposure to vapour/aerosol is minimised.

Exhaust systems should be designed in accordance with workplace conditions. The air should always be moved away from the source of vapour generation and the person working at this point. The odour and irritancy of this material are inadequate to warn of excessive exposure.

Personal Protection:

Requirements are dependent on working conditions, quantity of product in use and method of application. For minor use: safety goggles and gloves may be sufficient. If large quantities are in use: chemical resistant safety goggles, gloves or gauntlets and overalls. Suitable materials for protective clothing include butyl rubber, neoprene, polyethylene and teflon. Latex rubber is not suitable for use. The suitability and durability of a glove is dependent on frequency and duration of contact, chemical resistance of glove material, glove thickness and dexterity. In all cases glove suppliers should be contacted for additional advice. Contaminated gloves should be replaced. Wear appropriate clothing including chemical resistant apron where clothing may be contaminated.

Avoid breathing of vapours/gases. Atmospheric levels should be maintained below the exposure standard. When atmospheric levels may exceed the exposure standard, use an approved air-purifying respirator equipped with an organic vapour sorbent and a particulate filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive pressure air-supplying respirator (airline or self-contained breathing apparatus SCBA). For emergency response, or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply.

Select and use respirators in accordance with AS/NZS 1715/1716. N.B. If using an air-purifying respirator, TAKE THE LIMITS OF ABSORPTION CAPACITY INTO ACCOUNT. CHANGE FILTERS REGULARLY.

Contaminated personal protective equipment should be removed promptly and should not be re-used until decontaminated.

Section 9 – Physical and Chemical Properties

Appearance: Clear, liquid

Odour: Faint

Colour: Colourless

Specific gravity: approximately 1

Boiling Point: Not applicable (decomposes)

Solubility in Water: Partly miscible with water

Vapour Pressure: No data available

Vapour density (Air = 1): Heavier than air.

Flash Point: Above the SADT Value

Explosive limits (% By Volume in Air): Not applicable

Section 10 – Stability and Reactivity

Stability: SADT (Self accelerating decomposition temperature) is the lowest temperature at which self-accelerating decomposition may occur with the product in the packaging in which it was supplied and transported. A dangerous self-accelerating decomposition reaction and in some cases, explosion or fire can be caused by temperatures above 60°C. Contact with incompatible materials can cause decomposition at or below the SADT temperature,

Hazardous Decomposition Products: Emits toxic fumes including acetic acid, formic acid, propanoic acid, methyl ethyl ketone.

Hazardous polymerisation: Will not occur.

Incompatibilities: Avoid contact with rust, iron and copper. Contact with incompatible materials such as reducing agents (e.g. amines), acids, alkalis and heavy metal compounds such as accelerators, driers and metal soaps will result in hazardous decomposition. Do not mix with peroxide accelerators. Use only stainless steel 316, PP, polyethylene or glass-lined equipment.

Conditions to Avoid: Excessive heat, ignition sources and incompatible materials



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Section 11 – Toxicological Information

Symptoms of Exposure:

Swallowed. Significant oral exposure is considered to be unlikely. This product is corrosive to the gastrointestinal tract. 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.

Eye: This product is very 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. .

Skin: 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.

Inhaled: Symptoms may include headache, irritation of nose and throat and increased secretion of mucous in the nose and throat. Other symptoms may also become evident, but they should disappear after exposure has ceased. If liquid enters nasal passages, it will cause pain and burn nasal membranes. Patients with inhalation burns may develop acute pulmonary oedema.

Chronic Health Effects

There is no data to hand indicating any particular target organs.

CARCINOGEN STATUS:

ASCC: No significant ingredient is classified as carcinogenic by ASCC.

NTP: No significant ingredient is classified as carcinogenic by NTP.

IARC: Hydrogen Peroxide is Class 3 - unclassifiable as to carcinogenicity to humans.

See the IARC website for further details. A web address has not been provided as addresses frequently change.

Toxicological Information

Acute Toxicity Data:

Methyl Ethyl Ketone Peroxide:

LD50 Oral, Rat 1017mg/kg

LD50 Dermal, Rat = 4000mg/kg

LC50 Inhalation, Rat = 17mg/L/4hr

Methyl Ethyl Ketone:

LD50 Oral, Rat 2737mg/kg

LD50 Dermal, Rabbit = 6480mg/kg

Section 12 – Ecological Information

Fish: LC50 *Poecilia reticulata*: 44.2mg/L

This product is biodegradable. It will not accumulate in the soil or water or cause long term problems. If released to air, estimated vapour pressures ranging between 1.4×10^{-3} and 2×10^{-3} mm Hg at 25°C indicate MEKP will exist solely in the vapour-phase. Vapour-phase MEKP will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-lives for this reaction in air are estimated to range between 1.5 and 2 days. MEKP may react with organic materials in water or soil since it is a strong oxidizing agent. If released to soil, MEKP's mobility is expected to range from very high, to essentially immobile based upon an estimated Koc range of 10 to 11,000. Volatilization from moist soil surfaces is not expected to be an important fate process based upon an estimated Henry's Law constant range of 1×10^{-10} to 2×10^{-8} atm-cu m/mole. If released into water, some portions of the MEKP mixture are expected to adsorb to suspended solids and sediment based upon the higher values of the estimated Koc range. Volatilization from water surfaces is not expected to be an important fate process based upon this compound's range of estimated Henry's Law constants. An estimated BCF of 13 suggests the potential for bio concentration in aquatic organisms is low. Hydrolysis is not expected to occur due to the lack of hydrolyzable functional groups.

Section 13 – Disposal Considerations

Do not allow into any sewers, drains, on the ground or into any body of water. Any disposal must be accordance with applicable State, Territory and/or Local government regulations. The preferred waste management option for unused, uncontaminated, unformulated, or not otherwise altered material is to send to an approved recycler, reclaimer, or incinerator. The same waste management options are recommended for used or contaminated material, although additional evaluation is required. Waste characterisation and disposal compliance are the responsibility solely of the party generating the waste or deciding to discard or dispose of the material. Chemical additions, processing, storage, or otherwise altering this material may make the waste management information presented here incomplete, inaccurate or otherwise



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inappropriate.

Any disposal of contaminated packaging and washings must be in accordance with State, Territory and/or Local government regulations. After container has been cleaned and labelling has been removed, empty containers can be sent for recycling or disposal. If the container is to be reconditioned, the reconditioning company should be made aware of the nature of the original contents.

Section 14 – Transport Information

This product is a Class 5.2 Organic Peroxide according to the Australian Code for the Transportation of Dangerous Goods by Road and Rail (ADG Code).

UN Number: 3105

Dangerous Goods Class: Class 5.2: Organic peroxides.

Proper shipping name: ORGANIC PEROXIDE TYPE D, LIQUID

Hazchem Code: 2W

Special Provisions: SP122, SP274, SP373

Packaging Group: II.

See also, AS 1678.5K1-2006, Emergency procedure guide – Transport – Group text EPGS for Class 5 substances – Organic peroxides and

AS 1678.5Q1-2006, Emergency procedure guide – Transport – Group text EPGs for Class 5 substances – Organic peroxides, temperature controlled

Section 15 – Regulatory Information

Product is a schedule 5 Poison according to the requirements of the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

All ingredients are listed on the Australian Inventory of Chemical Substances (AICS).

Section 16 – Other Information

REFERENCES

1. List of Designated Hazardous Substances [NOHSC: 10005(1999)]
2. Safe Work Australia Code of Practice: Preparation of Safety Data Sheets for Hazardous Chemicals, 2016
3. Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC: 1003(1995)] and subsequent amendments
4. AS/NZS 1715 - Selection, use and maintenance of respiratory protective devices.
5. AS/NZS 1716 - Respiratory protective devices.
6. Australian Code for the Transportation of Dangerous Goods by Road and Rail (ADG Code), Edition, 7.4.
7. International Maritime Dangerous Goods Code (IMDG), and current amendments
8. Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) No. 15, November 2016

ABBREVIATIONS

LC50	Lethal dose for 50% of test population, by inhalation.
LDLo	Lowest documented lethal dose
LD50	Lethal dose for 50% of test population, by ingestion or skin contact
TDLo	Lowest published toxic dose
SADT	Self-accelerating Decomposition Temperature

User should verify applicability of this data sheet if more than 5 years old.

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