

Septone Fibreglass MEKP

ITW AAMTech

Chemwatch: 7753373

Version No: 4.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 3

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S.GHS.AUS.EN

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	Septone Fibreglass MEKP
Chemical Name	Not Applicable
Synonyms	METHYL ETHYL KETONE PEROXIDE, Product Code: ABFR, MMEKP20
Proper shipping name	ORGANIC PEROXIDE TYPE D, LIQUID
Chemical formula	Not Applicable
Other means of identification	Not Available
CAS number	Not Applicable

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Initiator for curing polyester resins., MEKP is also sold as one part of a multi part kit. The complete kit is known as 'SEPTONE, FIBREGLASS REPAIR KIT'. Septone Code Number ABFR.
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Details of the supplier of the safety data sheet

Registered company name	ITW AAMTech
Address	100 Hassall Street Wetherill Park 2164 NSW Australia
Telephone	+61 2 9828 0900
Fax	+61 2 9725 4698
Website	Not Available
Email	general@septone.com.au

Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	1800 039 008 (24 hours)
Other emergency telephone numbers	+61 3 9573 3112 (24 hours)

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the Model WHS Regulations and the ADG Code.

COMBUSTIBLE LIQUID, regulated for storage purposes only

Poisons Schedule	S5
GHS Classification ^[1]	Flammable Liquid Category 4, Organic Peroxide Type D, Acute Toxicity (Oral) Category 4, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Serious Eye Damage Category 1, Skin Sensitizer Category 1, STOT - SE (Resp. Irr.) Category 3, STOT - SE (Narcosis) Category 3, Aspiration Hazard Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

Label elements

GHS label elements	
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SIGNAL WORD	DANGER
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Hazard statement(s)

H227	Combustible liquid
H242	Heating may cause a fire

H302	Harmful if swallowed
H332	Harmful if inhaled
H315	Causes skin irritation
H318	Causes serious eye damage
H317	May cause an allergic skin reaction
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H304	May be fatal if swallowed and enters airways
AUH066	Repeated exposure may cause skin dryness and cracking

Precautionary statement(s): Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P234	Keep only in original container.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P220	Keep/Store away from clothing/organic material/combustible materials.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P270	Do not eat, drink or smoke when using this product.

Precautionary statement(s): Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321	Specific treatment (see advice on this label).
P331	Do NOT induce vomiting.
P370+P378	In case of fire: Use... to extinguish.
P302+P352	IF ON SKIN: Wash with plenty of water and soap
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.

Precautionary statement(s): Storage

P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P411+P235	Store at temperatures not exceeding the SADT (see storage requirements on SDS). Keep Cool
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P410	Protect from sunlight.
P420	Store away from other materials.

Precautionary statement(s): Disposal

P501	Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
1338-23-4	30-60	methyl ethyl ketone peroxide
6846-50-0	30-60	2,2,4-trimethyl-1,3-pentanediol diisobutyrate
78-93-3	0-10	methyl ethyl ketone
7722-84-1	0-10	hydrogen peroxide
107-41-5	0-10	hexylene glycol

"Active oxygen" content 8.7-9.0%

SECTION 4 FIRST AID MEASURES**Description of first aid measures**

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Immediately hold eyelids apart and flush the eye continuously with running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
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	<ul style="list-style-type: none"> ▶ Transport to hospital or doctor without delay. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes or combustion products are inhaled remove from contaminated area. ▶ Lay patient down. Keep warm and rested. ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▶ Transport to hospital, or doctor, without delay.
Ingestion	<ul style="list-style-type: none"> ▶ If swallowed do NOT induce vomiting. ▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▶ Observe the patient carefully. ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▶ Seek medical advice.

Indication of any immediate medical attention and special treatment needed

	<p>Treat symptomatically.</p> <p>Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.</p>
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SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

	<p>FOR <u>SMALL FIRE</u>:</p> <ul style="list-style-type: none"> ▶ Water spray, foam, CO2 or dry chemical. ▶ DO NOT use water jets. <p>FOR <u>LARGE FIRE</u>:</p> <ul style="list-style-type: none"> ▶ Flood fire area with water from a distance.
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Special hazards arising from the substrate or mixture

Fire Incompatibility	<ul style="list-style-type: none"> ▶ Avoid storage with reducing agents. ▶ Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous
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Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May be violently or explosively reactive. ▶ Wear breathing apparatus plus protective gloves in the event of a fire. ▶ Prevent, by any means available, spillage from entering drains or water courses. ▶ Consider evacuation (or protect in place). ▶ Fight fire from a safe distance, with adequate cover. ▶ Extinguishers should be used only by trained personnel.
Fire/Explosion Hazard	<p>WARNING: In use may form flammable/ explosive vapour-air mixtures.</p> <ul style="list-style-type: none"> ▶ Will not burn but increases intensity of fire. ▶ May explode from friction, shock, heat or containment. ▶ Heating may cause expansion or decomposition leading to violent rupture of containers. ▶ Heat affected containers remain hazardous. ▶ Contact with combustibles such as wood, paper, oil or finely divided metal may produce spontaneous combustion or violent decomposition. ▶ May emit irritating, poisonous or corrosive fumes.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	<p>Slippery when spilt.</p> <ul style="list-style-type: none"> ▶ Clean up all spills immediately. ▶ No smoking, naked lights, ignition sources. ▶ Avoid all contact with any organic matter including fuel, solvents, sawdust, paper or cloth and other incompatible materials, as ignition may result. ▶ Avoid breathing dust or vapours and all contact with skin and eyes. ▶ Control personal contact with the substance, by using protective equipment. ▶ Contain and absorb spill with dry sand, earth, inert material or vermiculite.
Major Spills	<p>Slippery when spilt.</p> <ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May be violently or explosively reactive. ▶ Wear full body protective clothing with breathing apparatus. ▶ Prevent, by any means available, spillage from entering drains or water course. ▶ Consider evacuation (or protect in place).

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> ▶ DO NOT USE brass or copper containers / stirrers ▶ DO NOT allow clothing wet with material to stay in contact with skin ▶ Mix only as much as is required ▶ DO NOT return the mixed material to original containers ▶ Avoid personal contact and inhalation of dust, mist or vapours. ▶ Provide adequate ventilation. ▶ Always wear protective equipment and wash off any spillage from clothing. ▶ Keep material away from light, heat, flammables or combustibles. ▶ Keep cool, dry and away from incompatible materials. ▶ Avoid physical damage to containers. ▶ DO NOT repack or return unused portions to original containers.
Other information	<ul style="list-style-type: none"> ▶ Store in original containers in an isolated approved flammable materials storage area. ▶ Keep containers securely sealed as supplied. ▶ WARNING: Gradual decomposition during storage in sealed containers may lead to a large pressure build-up and subsequent explosion. ▶ No smoking, naked lights, heat or ignition sources. ▶ Store in a cool, dry, well ventilated area. ▶ Store under cover and away from sunlight. ▶ Store below safe storage (control) temperature. <p>Maximum storage temperature 35 degC.</p>

Conditions for safe storage, including any incompatibilities

Suitable container	Store in original containers.
Storage incompatibility	<ul style="list-style-type: none"> ▶ Organic peroxides as a class are highly reactive. ▶ They are thermally unstable and prone to undergoing exothermic self-accelerating decomposition. ▶ Organic peroxides may decompose explosively, burn rapidly, be impact and/or friction sensitive and react dangerously with many other substances. ▶ Amines and polyester accelerators (cobalt salts, for example) if mixed with organic peroxides / organic peroxide mixtures will cause rapid / spontaneous decomposition with fire / explosion hazard. ▶ Avoid any contamination. ▶ Avoid finely divided combustible materials ▶ Avoid all external heat. ▶ Avoid mixing or reaction with acids, alkalies, reducing agents, metal powders, metal oxides, transition metals and their compounds.

PACKAGE MATERIAL INCOMPATIBILITIES

Not Available

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA


Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	methyl ethyl ketone peroxide	Methyl ethyl ketone peroxide	Not Available	Not Available	1.5 (mg/m3) / 0.2 (ppm)	Not Available
Australia Exposure Standards	methyl ethyl ketone	Methyl ethyl ketone (MEK)	445 (mg/m3) / 150 (ppm)	890 (mg/m3) / 300 (ppm)	Not Available	Not Available
Australia Exposure Standards	hydrogen peroxide	Hydrogen peroxide	1.4 (mg/m3) / 1 (ppm)	Not Available	Not Available	Not Available
Australia Exposure Standards	hexylene glycol	Hexylene glycol	Not Available	Not Available	121 (mg/m3) / 25 (ppm)	Not Available

EMERGENCY LIMITS

Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
methyl ethyl ketone peroxide	0.2(ppm)	0.2(ppm)	20(ppm)	20(ppm)
methyl ethyl ketone	200(ppm)	200(ppm)	2700(ppm)	4000(ppm)
hydrogen peroxide	10 / 1(ppm)	33.3 / 10(ppm)	167 / 50(ppm)	100 / 333(ppm)
hexylene glycol	10(ppm)	25(ppm)	25(ppm)	350(ppm)

Ingredient	Original IDLH	Revised IDLH
methyl ethyl ketone	3,000(ppm)	3,000 [Unch](ppm)
hydrogen peroxide	75(ppm)	75 [Unch](ppm)

Exposure controls

Appropriate engineering controls	Use in a well-ventilated area General exhaust is adequate under normal operating conditions.
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> Chemical goggles. Full face shield may be required for supplementary but never for primary protection of eyes. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable.
Skin protection	See Hand protection below
Hand protection	<ul style="list-style-type: none"> Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p> <ul style="list-style-type: none"> frequency and duration of contact, chemical resistance of glove material, glove thickness and dexterity <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> <ul style="list-style-type: none"> When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> Overalls. PVC Apron. PVC protective suit may be required if exposure severe. Eyewash unit. Ensure there is ready access to a safety shower. <p>Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.</p> <p>For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).</p>
Thermal hazards	Not Available

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

Septone Fibreglass MEKP

Material	CPI
NEOPRENE	A
##methyl ethyl	ketone
##hydrogen	peroxide

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Respiratory protection

Type AB Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	AB-AUS	-	AB-PAPR-AUS / Class 1
up to 50 x ES	-	AB-AUS / Class 1	-
up to 100 x ES	-	AB-2	AB-PAPR-2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear colourless mobile liquid with a mildly pungent odour; does not mix with water. Self accelerating decomposition temperature (SADT) approximately 60°C.		
Physical state	Liquid	Relative density (Water = 1)	1.16
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature	~60
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	71 (Setaflash)	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Combustible.	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Negligible	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution(1%)	Not Applicable
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Presence of incompatible materials. ▶ Product is considered stable under normal handling conditions. ▶ Prolonged exposure to heat. ▶ Hazardous polymerisation will not occur. NOTE: <ul style="list-style-type: none"> ▶ A range of exothermic decomposition energies for peroxides is given as 200-340 kJ/mol. ▶ The relationship between energy of decomposition and processing hazards has been the subject of discussion; it is suggested that values of energy releases per unit of mass, rather than on a molar mass basis (J/g) be used in the assessment. For example, in open vessel processes (with man-hole size openings, in an industrial setting), substances with exothermic decomposition energies below 500 J/g are unlikely to present a danger, whilst those in closed vessel processes (opening is a safety valve or bursting disk) present some danger where the decomposition energy exceeds 150 J/g.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo. Pulmonary hyperaemia with petechiae and gross haemorrhage were common in rats exposed for 4 hours to methyl ethyl ketone peroxide (MEKP) vapour. Inhalation hazard is increased at higher temperatures.
Ingestion	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. Swallowing of the liquid may cause aspiration of vomit into the lungs with the risk of haemorrhaging, pulmonary oedema, progressing to chemical pneumonitis; serious consequences may result. Signs and symptoms of chemical (aspiration) pneumonitis may include coughing, gasping, choking, burning of the mouth, difficult breathing, and bluish coloured skin (cyanosis). Ingestion of organic peroxides may produce nausea, vomiting, abdominal pain, intoxication, cyanosis and severe central nervous system depression. Toxic myocarditis may also occur. Individuals surviving ingestion of up to 60 grams of 60% methyl ethyl ketone peroxide (MEKP) solution experienced severe oesophagitis and gastritis. Chemical burns of the gastrointestinal tract and scarring and stricture of the oesophagus were reported in the case of a patient who survived the ingestion of 60 gm.
Skin Contact	Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.
Eye	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

Septone Fibreglass MEKP

Chronic	Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals. Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.	
Septone Fibreglass MEKP	TOXICITY	IRRITATION
	Not Available	Not Available
methyl ethyl ketone peroxide	TOXICITY	IRRITATION
	Inhalation (mouse) LC50: 170 ppm/4h	Eyes (rabbit) 3 mg Irritant
	Inhalation (Mouse) LC50: 2500 mg/m3/4h	Skin (rabbit) 500mg Irritant
	Inhalation (rat) LC50: 200 ppm/4h	
	Inhalation (Rat) LC50: 3600 mg/m3/4h	
	Intraperitoneal (Mouse) LD50: 200 mg/kg	
	Intraperitoneal (rat) LD50: 65 mg/kg	
	Oral (Mouse) LD50: 250 mg/kg	
	Oral (mouse) LD50: 470 mg/kg	
	Oral (Rat) LD50: 470 mg/kg	
	Oral (rat) LD50: 484 mg/kg	
Not Available	Not Available	
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	TOXICITY	IRRITATION
	Dermal (Guinea pig) LD50: >20 ml/kg ***	**[Eastman] *[Patty]
	Inhalation (rat) LC50: >5.3 mg/l/6h**	Eye (rabbit): very slight**
	Oral (Mouse) LD50: >6400 mg/kg ***	Skin (guinea pig): 5000mg/kg-mild
	Oral (rat) LD50: >3200 mg/kg*	
Not Available	Not Available	
methyl ethyl ketone	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 20000 mg/kg	- mild
	Dermal (rabbit) LD50: 6480 mg/kg	Eye (human): 350 ppm -irritant
	Inhalation (rat) LC50: 50100 mg/m3/8 hr	Eye (rabbit): 80 mg - irritant
	Inhalation (rat) LD50: 23500 mg/m3/8 hr	Skin (rabbit): 402 mg/24 hr - mild
	Oral (rat) LD50: 2737 mg/kg	Skin (rabbit):13.78mg/24 hr open
Not Available	Not Available	
hydrogen peroxide	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 4060 mg/kg	
	Inhalation (mouse) LC50: 2000 mg/kg/4H	
Not Available	Not Available	
hexylene glycol	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 8560 mg/kg	Eye (rabbit): 93mg - SEVERE
	Oral (rat) LD50: 3700 mg/kg	Skin (rabbit):465 mg open-mild
		Skin (rabbit):465mg/24hr-moderate
Not Available	Not Available	

Not available. Refer to individual constituents.

METHYL ETHYL KETONE PEROXIDE	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested. structure/ function of the oesophagus, nausea, vomiting, gastrointestinal change, lymphoma recorded. Equivocal tumourigen by RTECS criteria.
2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

	<p>For 2,2,4-trimethyl-1,3-pentanediol diisobutyrate (TXIB) TXIB showed no genotoxic effects in bacteria and chromosomal aberration test <i>in vitro</i>. Reproductive/ developmental toxicity: In a combined repeat dose and reproductive/developmental toxicity screening test, increase of liver and kidney weights were observed in parental animals from the middle dose level (150 mg/kg/day). In the histopathological examinations, increases in grade of basophilic change of renal tubular epithelium and degeneration of hyaline droplet were observed from the same level. In addition, necrosis and other renal effects were also observed. NOAEL oral (rat), 103 days = 1% in diet *** NOEL oral (dog), 90 days = 1% in diet *** Mutagenicity/Genotoxicity Data: *** Chromosomal aberration assay: Negative (, /- activation) CHO/HGPRT assay: Negative (, /- activation) Salmonella-E.coli reverse mutation assay (Ames test): Negative (, /- activation) *, **, *** Various suppliers MSDS</p>
HYDROGEN PEROXIDE	<p>No significant acute toxicological data identified in literature search.</p> <p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases.</p>
HEXYLENE GLYCOL	<p>For hexylene glycol Acute toxicity: Hexylene glycol is of relatively low acute toxicity to mammals, the acute oral LD50 is >2000 and <5000 mg/kg (range >2000-4700 mg/kg) while the dermal LD50 is >2000 mg/kg (range >1.84-12.3 g/kg). The acute inhalational LC50 is ³ the saturated vapour concentration. Skin and eye irritation guideline studies indicate that hexylene glycol has low potential to irritate the skin and is slightly irritating to the eye. Skin and eye effects are reversible. Hexylene glycol is not a skin sensitiser. Repeat dose toxicity: Repeated exposure by oral gavage to rats at 50, 150 or 450 mg/kg/day hexylene glycol for 90 days, with additional animals at the top dose also allowed a 4 week exposure-free recovery period, resulted in hepatocellular hypertrophy and increased liver weight, male rat specific nephropathy and inflammatory changes in the forestomach and to a lesser extent the glandular stomach. The liver changes were reversible and considered an adaptive physiological response to increased metabolic demand.</p>

Acute Toxicity	✓	Carcinogenicity	⊖
Skin Irritation/Corrosion	✓	Reproductivity	⊖
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✓
Respiratory or Skin sensitisation	✓	STOT - Repeated Exposure	⊖
Mutagenicity	⊖	Aspiration Hazard	✓

CMR STATUS

Not Applicable

SECTION 12 ECOLOGICAL INFORMATION**Toxicity****DO NOT discharge into sewer or waterways.**

|MEKP is considered to be readily biodegradable, and it is slightly toxic to marine aquatic organisms.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
Not Available	Not Available	Not Available

Bioaccumulative potential

Ingredient	Bioaccumulation
Not Available	Not Available

Mobility in soil

Ingredient	Mobility
Not Available	Not Available

SECTION 13 DISPOSAL CONSIDERATIONS**Waste treatment methods**

Product / Packaging disposal	<p>For small quantities of oxidising agent:</p> <ul style="list-style-type: none"> ▶ Cautiously acidify a 3% solution to pH 2 with sulfuric acid. ▶ Gradually add a 50% excess of sodium bisulfite solution with stirring. ▶ Add a further 10% sodium bisulfite. ▶ If no further reaction occurs (as indicated by a rise in temperature) cautiously add more acid.
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SECTION 14 TRANSPORT INFORMATION**Labels Required**



Marine Pollutant	NO
HAZCHEM	2WE

Land transport (ADG)

UN number	3105
Packing group	Not Available
UN proper shipping name	ORGANIC PEROXIDE TYPE D, LIQUID
Environmental hazard	No relevant data
Transport hazard class(es)	Class : 5.2 Subrisk :
Special precautions for user	Special provisions : 122 274 323 limited quantity : 125 ml

Air transport (ICAO-IATA / DGR)

UN number	3105
Packing group	Not Available
UN proper shipping name	Organic peroxide type D, liquid * †
Environmental hazard	No relevant data
Transport hazard class(es)	ICAO/IATA Class : 5.2 ICAO / IATA Subrisk : ERG Code : 5L
Special precautions for user	Special provisions : A20A150 Cargo Only Packing Instructions : 570 Cargo Only Maximum Qty / Pack : 10 L Passenger and Cargo Packing Instructions : 570 Passenger and Cargo Maximum Qty / Pack : 5 L Passenger and Cargo Limited Quantity Packing Instructions : Forbidden Passenger and Cargo Limited Maximum Qty / Pack : Forbidden

Sea transport (IMDG-Code / GGVSee)

UN number	3105
Packing group	Not Available
UN proper shipping name	ORGANIC PEROXIDE TYPE D, LIQUID
Environmental hazard	
Transport hazard class(es)	IMDG Class : 5.2 IMDG Subrisk :
Special precautions for user	EMS Number : F-J,S-R Special provisions : 122 274 323 Limited Quantities : 125 ml

Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code

Source	Ingredient	Pollution Category	Residual Concentration - Outside Special Area (% w/w)	Residual Concentration
40-7-4-9-0-0-MK-20041022	hexylene glycol	Not Available	Not Available	Not Available

SECTION 15 REGULATORY INFORMATION**Safety, health and environmental regulations / legislation specific for the substance or mixture**

methyl ethyl ketone peroxide(1338-23-4) is found on the following regulatory lists	"Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "International Maritime Dangerous Goods Requirements (IMDG Code)", "International Council of Chemical Associations (ICCA) - High Production Volume List", "Australia - Victoria Occupational Health and Safety Regulations - Schedule 9: Materials at Major Hazard Facilities (And Their Threshold Quantity) Table 2", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "Australia Exposure
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	Standards", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances - Table II", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "OECD List of High Production Volume (HPV) Chemicals", "Australia Inventory of Chemical Substances (AICS)", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft", "Australia Dangerous Goods Code (ADG Code) - Goods Too Dangerous To Be Transported", "Australia Explosives Code (AE Code)", "OECD Existing Chemicals Database", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "Australia Hazardous Substances Information System - Consolidated Lists", "International Air Transport Association (IATA) Dangerous Goods Regulations", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "United Nations List of Precursors and Chemicals Frequently used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances Under International Control (Red List) - Table II"
2,2,4-trimethyl-1,3-pentanediol diisobutyrate(6846-50-0) is found on the following regulatory lists	"FisherTransport Information", "Australia Inventory of Chemical Substances (AICS)", "OECD List of High Production Volume (HPV) Chemicals", "Sigma-AldrichTransport Information", "OECD Existing Chemicals Database", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of minimum requirements", "International Fragrance Association (IFRA) Survey: Transparency List"
methyl ethyl ketone(78-93-3) is found on the following regulatory lists	"Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "Australia Customs (Prohibited Exports) Regulations 1958 - Schedule 9 Precursor substances - Part 2", "International Maritime Dangerous Goods Requirements (IMDG Code)", "Australia Illicit Drug Reagents/Essential Chemicals - Category III", "IOFI Global Reference List of Chemically Defined Substances", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "Australia Exposure Standards", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances - Table II", "FisherTransport Information", "Australia FAISD Handbook - First Aid Instructions, Warning Statements, and General Safety Precautions", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes", "Australia Inventory of Chemical Substances (AICS)", "OECD List of High Production Volume (HPV) Chemicals", "OSPAR National List of Candidates for Substitution - Norway", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "Australia National Pollutant Inventory", "Sigma-AldrichTransport Information", "Australia High Volume Industrial Chemical List (HVICL)", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)", "OECD Existing Chemicals Database", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "Australia Hazardous Substances Information System - Consolidated Lists", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "International Air Transport Association (IATA) Dangerous Goods Regulations", "IMO IBC Code Chapter 17: Summary of minimum requirements", "United Nations List of Precursors and Chemicals Frequently used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances Under International Control (Red List) - Table II", "International Fragrance Association (IFRA) Survey: Transparency List"
hydrogen peroxide(7722-84-1) is found on the following regulatory lists	"Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "International Maritime Dangerous Goods Requirements (IMDG Code)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "Australia - Victoria Occupational Health and Safety Regulations - Schedule 9: Materials at Major Hazard Facilities (And Their Threshold Quantity) Table 2", "Australia Exposure Standards", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "FisherTransport Information", "Australia FAISD Handbook - First Aid Instructions, Warning Statements, and General Safety Precautions", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes", "Australia Council of Australian Governments (COAG) Chemicals of Security Concern", "Australia Inventory of Chemical Substances (AICS)", "OECD List of High Production Volume (HPV) Chemicals", "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft", "Australia Dangerous Goods Code (ADG Code) - Goods Too Dangerous To Be Transported", "Australia High Volume Industrial Chemical List (HVICL)", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)", "OECD Existing Chemicals Database", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "Australia Council of Australian Governments (COAG) Precursor Chemicals of Security Concern", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "International Air Transport Association (IATA) Dangerous Goods Regulations", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia Hazardous Substances Information System - Consolidated Lists", "Australia Therapeutic Goods Administration (TGA) Substances that may be used as active ingredients in Listed medicines", "IMO IBC Code Chapter 17: Summary of minimum requirements", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6"
hexylene glycol(107-41-5) is found on the following regulatory lists	"International Council of Chemical Associations (ICCA) - High Production Volume List", "Australia Exposure Standards", "FisherTransport Information", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances", "Australia Inventory of Chemical Substances (AICS)", "OECD List of High Production Volume (HPV) Chemicals", "Australia National Pollutant Inventory", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "Sigma-AldrichTransport Information", "OECD Existing Chemicals Database", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "Australia Hazardous Substances Information System - Consolidated Lists", "International Fragrance Association (IFRA) Survey: Transparency List"

SECTION 16 OTHER INFORMATION

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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