nuplex Material Safety Data Sheet

BUTANOX M-50 CATALYST

Infosafe No.	NLYJ4	**Version No.**	5.0	**ISSUED Date**	July 2013	**Status**	ISSUED by NUPLEXIN

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name
BUTANOX M-50 CATALYST

Product Code
C680008

Company Name
NUPLEX COMPOSITES a division of Nuplex Industries (Aust) Pty Ltd (ABN 25 000 045 572)

Address
49 - 61 Stephen Road, BOTANY NSW 2019
New Zealand: NUPLEX COMPOSITES a division of Nuplex Industries Limited, Level 3 Millennium Centre, 602C Great South Road Ellerslie 1051
NEW ZEALAND

Emergency Tel.
Australia: 1800 022 037 (24H)
New Zealand: 0800 154 666 (24H)

Telephone/Fax Number
Telephone: Australia: +61 (02) 9839 4000(BH); New Zealand: +64 (09) 583 6500(BH) Fax number: Australia: +61 (02) 9674 6225; New Zealand: +64 (09) 525 3709

Email
compliance@nuplex.com.au

Recommended Use
Curing agent

2. HAZARDS IDENTIFICATION

Hazard Classification
Classified as Hazardous according to criteria of National Occupational Health and Safety Commission (NOHSC), Australia.
Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Risk Phrase(s)
R7 May cause fire.
R23 Toxic by inhalation.
R34 Causes burns.
R21/22 Harmful in contact with skin and if swallowed.

Safety Phrase(s)

S15 Keep away from heat.
S23 Do not breathe gas/fumes/vapour/spray
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S3/7/9 Keep container tightly closed in a cool, well ventilated place.
S24/25 Avoid contact with skin and eyes.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Name	CAS	Proportion
Dimethyl phthalate	131-11-3	55-100 %
Methyl ethyl ketone peroxide	1338-23-4	30-<45 %
Methyl ethyl ketone	78-93-3	0-<10 %
Ingredients determined not to be hazardous		Balance

4. FIRST AID MEASURES

Inhalation
Avoid becoming a casualty - to protect rescuer, use air-viva, oxy-viva or one-way mask. Remove affected person from contaminated area - Apply artificial respiration if not breathing. Do not give direct mouth to mouth resuscitation. Resuscitate a in well ventilated area. Seek immediate medical attention.

Ingestion
Do not induce vomiting. Wash out mouth thoroughly with water. Seek immediate medical attention.

Skin
Remove all contaminated clothing immediately. Wash gently and thoroughly with water and non-abrasive soap for 15 minutes. Ensure contaminated clothing is washed before re-use or discard. Seek immediate medical attention.

Eye
If in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Seek immediate medical attention.

First Aid Facilities
Eyewash, safety shower and normal washroom facilities.

Advice to Doctor
Treat symptomatically.

Other Information
For advice in an emergency, contact a Poisons Information Centre or a doctor at once. (131 126)

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media
Water spray, carbon dioxide, dry sand, dry chemical or alcohol-resistant foam

Hazards from Combustion Products
Under fire conditions this product may emit toxic and/or irritating fumes and gases including oxides of nitrogen, propanoic acid, acetic acid, formic acid, methyl ethyl ketone, carbon monoxide and carbon dioxide.

Specific Hazards

Contact with incompatible materials or exposure to temperatures exceeding the SADT may result in a self accelerating decomposition reaction with release of flammable vapours which may autoignite. Decomposition may be initiated when dry or by friction, shock or rapid heating. Contact with combustible materials, heating or friction may cause fire or

explosion. Burns fiercely when ignited. Organic peroxides provide oxygen for combustion so simple smothering actions are not effective against established fires. Due to the possibility of re-ignition, extinguished residues must be thoroughly cooled before approaching. Violent decomposition can occur at temperatures above 60°C Containers involved in a fire can constitute an explosion risk if confined.

Hazchem Code
2WE

Decomposition Temperature
SADT-Self Accelerating Decomposition Temperature. 60°C

Precautions in connection with Fire
Fight fire with large amounts of water from a safe distance. Fire-fighters should wear full fire fighting turn out gear (full Bunker Gear) and self contained breathing apparatus (SCBA) operated in positive pressure mode. In case of fire the product may be violently or explosively reactive. Water spray may be used to keep fire exposed containers cool. Fire fighting equipment should be thoroughly decontaminated after use. After a fire, wait until the material has cooled to room temperature before initiating clean-up activities. This product should be prevented from entering drains and watercourses.

Unsuitable Extinguishing Media
Halons

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures
Remove all sources of ignition. Evacuate all unprotected personnel. Do not allow contact with skin and eyes. Do not breathe mist/vapour. It is essential to wear self-contained breathing apparatus (S.C.B.A) and full personal protective equipment and clothing to prevent exposure. Avoid exposure to spillage by collecting the material using explosion proof vacuum and transfer into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for Safe Handling
Contact with incompatible materials or exposure to temperatures exceeding the SADT may result in a self accelerating decomposition reaction with release of flammable vapours which may autoignite. Use in a well ventilated area. DO NOT store or use in confined spaces. Build up of mists or vapours in the atmosphere must be prevented. Avoid breathing in mists or vapours and skin or eye contact. Do not use near welding or other ignition sources and avoid sparks. Use proper grounding procedures. Store in suitable, labelled containers. Keep containers closed when not in use, securely sealed and protected against physical damage. Do not reuse empty packaging to store other products. Never return unused product to original container. Do not smoke. Do not pressurise, cut, heat or weld containers as they may contain hazardous residues. Protect from contamination- Use only very clean containers and equipment free from traces of impurities. Wear appropriate personal protective equipment and clothing to prevent exposure. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Maintain high standards of personal hygiene i.e. washing hands prior to eating, drinking, smoking or using toilet facilities. Rotate stock using the oldest material first. Keep contents moist. Avoid confinement and drying out. Never weigh out in the storage room. Recommended to use electrical equipment of temperature group T3.

Conditions for Safe Storage

Store in a cool, dry well-ventilated area away from foodstuffs, clothing, combustible and incompatible materials. Detached storage is preferred. Keep away from heat and sources of ignition. Store in a cool, dry well-ventilated area away from foodstuffs, clothing, combustible and incompatible materials. 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. Keep containers closed when not in use, securely sealed and protected

against physical damage. Inspect regularly for deficiencies such as damage or leaks. Have appropriate fire extinguishers available in and near the storage area. Take precautions against static electricity discharges. Use proper grounding procedures. Provide a catch-tank in a bunded area. Ensure that storage conditions comply with applicable local and national regulations.
For information on the design of the storeroom, reference should be made to Australian Standard AS 3780 The storage and handling of corrosive substances and Australian Standard AS1940 - The storage and handling of flammable and combustible liquids.
For information on the design of the storeroom reference should be made to Australian Standard AS 2714-2008: The storage and handling of organic peroxides.

Storage Temperatures
To maintain quality store in original closed container below: 25°C

Recommended Materials
Use only stainless steel 316, PVC, polyethylene or glass-lined equipment

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards

Substance	Regulations	Exposure Duration	Exposure Limit	Units	Notes
Dimethyl phthalate	Safe Work Australia	TWA	5	mg/m3	
Methyl ethyl ketone peroxide	Safe Work Australia	TWA	0.2	ppm	**Peak limit**
	Safe Work Australia	TWA	1.5	mg/m3	
Methyl ethyl ketone	Safe Work Australia	TWA	150	ppm	
	Safe Work Australia	TWA	445	mg/m3	
	Safe Work Australia	STEL	300	ppm	
	Safe Work Australia	STEL	890	mg/m3	

Biological Limit Values
No biological limits allocated.

Engineering Controls
This substance is hazardous and should be used with a local exhaust ventilation system, drawing vapours away from workers' breathing zone. A flame-proof exhaust ventilation system is required. If the engineering controls are not sufficient to maintain concentrations of vapours/mists below the exposure standards, suitable respiratory protection must be worn. Refer to relevant regulations for further information concerning ventilation requirements.
Refer to AS 1940 - The storage and handling of flammable and combustible liquids and AS/NZS 60079.10.1:2009 Explosive atmospheres - Classification of areas - Explosive gas atmospheres, for further information concerning ventilation requirements.

Respiratory Protection
If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

Eye Protection
Safety glasses with full face shield should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform to relevant regulations.
Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

Hand Protection
Wear gloves of impervious material such as neoprene, synthetic rubber. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations.
Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Body Protection
Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Colourless liquid

Odour
Faint odour

Decomposition Temperature
SADT-Self Accelerating Decomposition Temperature. 60°C

Freezing Point
<= -10°C

Boiling Point
Not applicable (decomposes)

Solubility in Water
Partially miscible

Solubility in Organic Solvents
Miscible with phthalates

Specific Gravity
1.17 (20°C)

pH Value
Weak acid

Vapour Pressure
Not available

Vapour Density (Air=1)
Not available

Evaporation Rate

Not available

Coefficient Water/Oil Distr.
Not available

Odour Threshold
Not available

Colour
Colourless

Volatile Component
Not available

Octanol/Water Partition Coefficient
Not available

Flash Point
Above SADT

Flammability
Not flammable. Decomposition products may be flammable.

Auto-Ignition Temperature
Not applicable

Flammable Limits - Lower
Not available

Flammable Limits - Upper
Not available

Kinematic Viscosity
Not available

Dynamic Viscosity
25 mPa.s (20°C)

Other Information
Active oxygen content : 9.8-10.0%
Peroxide content: 36%

10. STABILITY AND REACTIVITY

Stability and Reactivity
Refer to Section 10 Stability and reactivity

Chemical Stability
Temperatures at or above the SADT can result in the release of hazardous decomposition products which are flammable and may autoignite. A dangerous self-accelerating decomposition reaction and explosion or fire can be caused by thermal decomposition at and above the following temperature:60°C. Contact with incompatible materials can cause decomposition at or below the SADT 60°C.
(SADT-Self Accelerating Decomposition Temperature.)

Conditions to Avoid

Keep away from heat and sources of ignition (risk of self-accelerating exothermic decomposition). Do not subject to grinding/shock//friction. Never return unused product to original container. To maintain quality store in original closed container below: 25°C. Store in a cool, dry, well-ventilated area, out of direct sunlight, away from heat and ignition sources. This product should not be stored at temperatures above 38°C. Protect from contamination- Use only very clean containers and equipment free from traces of impurities. SADT-Self Accelerating Decomposition Temperature.60°C. Never mix directly with

accelerators or promoters. Do not confine in closed systems or equipment.

Incompatible Materials
Alkalis, heavy metal, strong oxidising agents, strong acids, transition metal salts, accelerators/promoters and reducing agents may result in a violent decomposition reaction or in product degradation.
Store away from other materials.- rust, iron, copper
Do not mix with peroxide accelerators. Use only stainless steel 316, PVC, polyethylene or glass-lined equipment

Hazardous Decomposition Products
Temperatures at or above the SADT can result in the release of hazardous decomposition products which are flammable and may autoignite. Thermal and oxidative products can include acetic acid, formic acid, methyl ethyl ketone, propanoic acid, carbon dioxide, carbon monoxide and oxides of nitrogen

Hazardous Reactions
Reacts with incompatible materials.

Hazardous Polymerization
Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicology Information
Toxicity data for ingredients given below.

Inhalation
Toxic by inhalation. Inhalation may cause headaches, impairment of judgement and in extreme cases can lead to unconsciousness or death. Inhalation will result in respiratory irritation and possible harmful corrosive effects including lesions of the nasal septum, pulmonary edema, pneumonitis and emphysema.

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

Skin
Causes burns. Corrosive to the skin. Skin contact can cause redness, itching, irritation, severe pain and chemical burns with resultant tissue destruction. Harmful in contact with skin. Product can be absorbed through skin with resultant harmful systemic effects.

Eye
Causes eye damage. Eye contact will cause stinging, blurring, tearing, severe pain and possible burns, necrosis, permanent damage and blindness.

Chronic Effects
Not available

Mutagenicity
Not considered to be a mutagenic hazard.

Methyl ethyl ketone peroxide 40% in Dimethyl phthalate:
Not mutagenic in Ames test

Acute Toxicity - Oral

Methyl ethyl ketone peroxide, 40% in Dimethyl phthalate:
LD50 (rat):1017mg/kg

Dimethyl phthalate
LD50 (rat):>2400mg/kg

Methyl Ethyl Ketone
LD50 (rat): 2737mg/kg

Acute Toxicity - Dermal
Methyl ethyl ketone peroxide, 40% in Dimethyl phthalate:
LD50 (rat):4000mg/kg

Dimethyl phthalate
LD50 (rat): >10,000mg/kg

Methyl Ethyl Ketone
LD50 (rabbit):6480mg.kg

Acute Toxicity - Inhalation
Methyl ethyl ketone peroxide, 40% in Dimethyl phthalate:
LC50 (rat): 17mg/l/4h

Dimethyl phthalate
LC50 (rat): 9300mg/m3/6.5h

Methyl Ethyl Ketone
LC50 (mouse): 23500mg/m3

12. ECOLOGICAL INFORMATION

Ecotoxicity
No ecological data available for this material.

Persistence / Degradability
Methyl ethyl ketone peroxide, 40% in Dimethyl phthalate: Readily biodegradable (Closed bottle test)

Dimethyl phthalate: Readily biodegradable

Methyl Ethyl Ketone: Readily biodegradable
Naturally occurring substance

Mobility
Not available

Bioaccumulative Potential
Dimethyl phthalate
Bioconcentration Factor (BCF), fish:5.4 (24h)

Other Adverse Effects
Not available

Environmental Protection
Do not discharge this material into waterways, drains and sewers.

Acute Toxicity - Fish
Methyl ethyl ketone peroxide, 40% in Dimethyl phthalate:
LC50 (Poecilia reticulata): 44.2mg/l/96hr

Dimethyl phthalate
LC50 (Lepomis macrochirus): 420ppm/96hr

Methyl Ethyl Ketone
LC50 (Lepomis macrochirus): 3.22g/l/96hr

Acute Toxicity - Algae
Dimethyl phthalate:
IC50 (Selenastrum capricornutum) 39.8mg/l/96hr

Acute Toxicity - Bacteria

Methyl ethyl ketone peroxide 40% in Dimethyl phthalate
Activated sludge respiration inhibition test

EC50 ( ): 48.0mg/l

13. DISPOSAL CONSIDERATIONS

Disposal Considerations
The disposal of the spilled or waste material must be done in accordance with applicable local and national regulations.

14. TRANSPORT INFORMATION

Transport Information
This material is classified as Dangerous Goods Division 5.2 Organic Peroxides Dangerous Goods are incompatible in a placard load with any of the following:
Class 1: Explosives
Division 2.1: Flammable gases
Division 2.2: Non-flammable Non-toxic Gases
Division 2.3: Toxic gases
Class 3: Flammable liquids
Division 4.1: Flammable Solids
Division 4.2: Spontaneously combustible substances
Division 4.3: Dangerous when wet substances
Division 5.1: Oxidising substances
Class 6 Toxic or Infectious Substances
Class 7: Radioactive materials unless specifically exempted
Class 8: Corrosive substances
Class 9: Miscellaneous substances (when the class 9 substance is a fire risk substance)
Fire risk substances
Combustible liquid

U.N. Number
3105

Proper Shipping Name
ORGANIC PEROXIDE TYPE D, LIQUID

DG Class
5.2

Hazchem Code
2WE

IERG Number
32

UN Number (Air Transport, ICAO)
3105

IATA/ICAO Proper Shipping Name
ORGANIC PEROXIDE TYPE D, LIQUID

IATA/ICAO Hazard Class
5.2

IATA/ICAO Symbol
Organic Peroxide

IMDG UN No
3105

IMDG Proper Shipping Name
ORGANIC PEROXIDE TYPE D, LIQUID

IMDG Hazard Class
5.2

IMDG Marine Pollutant
No

IMDG EMS
F-J,S-R

15. REGULATORY INFORMATION

Regulatory Information
Classified as Hazardous according to criteria of National Occupational Health and Safety Commission (NOHSC), Australia.
Classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Poisons Schedule
S5

Hazard Category
Toxic, Corrosive, Oxidising

Australia (AICS)

16. OTHER INFORMATION

Date of preparation or last revision of MSDS
SDS Reviewed: July 2013, Supersedes: April 2011

Contact Person/Point
IMPORTANT ADVICE: This MSDS summarizes 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 should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including its use in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact the supplier listed in section 1 of the SDS. 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.

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Literature References

Standard for the Uniform Scheduling of Medicines and Poisons.
Approved criteria for classifying hazardous substances [NOHSC:1008(2004)].
National Code of Practice for the Preparation of Material Safety Data Sheets [NOHSC:2011 (2003)].
Australian Code for the Transport of Dangerous Goods by Road & Rail.
Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

Workplace exposure standards for airborne contaminants, Safe work Australia.
American Conference of Industrial Hygienists (ACGIH)

Technical Contact Numbers
For further information ask for: For specialist advice in emergencies: 1800 022 037

End of MSDS

Print Date: 26/06/2015 BS: 4.5.2