nuplex

Material Safety Data Sheet

CUROX M-100 (SR) CATALYST

Infosafe No.: EAC0N
Version No.: 4.0
Issued Date: 13/11/2015
Issued by: Nuplex Industries (Aust) Pty Ltd

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name
CUROX M-100 (SR) CATALYST

Product Code
C680018

Company Name
Nuplex Industries (Aust) Pty Ltd (ABN25 000 045 572)

Address
49 - 61 Stephen Road, Botany, NSW 2019
New Zealand: Nuplex Industries Ltd., 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) 9666 0331(BH); New Zealand: +64 (09) 583 6500(BH) Fax number: Australia: +61 (02) 9666 6661; New Zealand: +64 (09) 525 3709

Email
compliance@nuplex.com.au

Recommended Use
Industrial application

2. HAZARD 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.
R22 Harmful if swallowed.
R34 Causes burns.

Safety Phrase(s)
S7 Keep container tightly closed.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S45 In case of accident or if you feel unwell seek medical advice immediately
S3/14 Keep in a cool place away from
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization
Liquid

Ingredients

Name	CAS	Proportion
Methyl ethyl ketone peroxide	1338- 23- 4	<40 %
Methyl ethyl ketone	78- 93- 3	<10 %
Hydrogen peroxide	7722- 84- 1	<5 %

Preparation Description
Methyl ethyl ketone peroxide, liquid mixture

4. FIRST-AID MEASURES

Inhalation
If inhaled, remove affected person from contaminated area. Apply artificial respiration if not breathing. Seek 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
Carbon dioxide, dry chemical, foam, water fog or water mist.

Hazards from Combustion Products

Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases including carbon monoxide, carbon dioxide and oxides of nitrogen.

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.

Hazchem Code

2WE

Decomposition Temperature

SADT-Self Accelerating Decomposition Temperature.: 60°C (approximate). Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.This reaction may generate flammable vapours which may autoignite. The length of time to generate a decomposition reaction, after the SADT has been reached or exceeded, is dependent upon how much the SADT has been exceeded and the length of time needed for the reaction exotherm (heat spike from increasing decomposition rate) to initiate a rapid decomposition reaction. Typically, SADT is inversely proportional to package size. Larger packages will have a lower SADT due to smaller ratio to heat transfer area to volume of product.

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

Do not use water jet.

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. Avoid exposure to spillage by collecting the material using explosion proof vacuum and transfer into suitable labelled containers for subsequent recycling or disposal. Peroxide residues must not be returned into original container, danger of decomposition! Peroxide-remains must never be returned into the storage vessel because contaminations can cause self-ignition or decomposition. Also they must never be left to themselves or placed into the domestic waste. It is essential to wear self-contained breathing apparatus (S.C.B.A) and full personal protective equipment and clothing to prevent exposure. 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

Organic Peroxide and Corrosive liquid. Attacks skin and eyes. Causes burns. Avoid breathing in mists or vapours and skin or eye contact. Wear appropriate personal protective equipment and clothing to prevent exposure. Use in designated areas with local exhaust ventilation. DO NOT store or use in confined spaces. Build up of mists or vapours in the atmosphere must be prevented. Do not use near welding or other ignition sources and avoid sparks. 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. Do not smoke. Do not pressurise, cut, heat or weld containers as they may contain hazardous residues. Never return unused product to original container. Maintain high standards of personal hygiene i.e. washing hands prior to eating, drinking, smoking or using toilet facilities. Do not eat, drink or smoke when using this product.

Conditions for Safe Storage

Store below 35ºC to maintain stability and active oxygen content. 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.

This material is corrosive and combustible and must be stored, handled and maintained according to the appropriate regulations.Provide a catch-tank in a bunded area. Structural materials and lighting and ventilation systems in storage area should be corrosion resistant. Store in a cool, dry, well-ventilated area away from sources of ignition, oxidizing agents, strong mineral acids, bases metal and/or water. 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. 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 2714-2008: The storage and handling of organic peroxides, Australian Standard AS 3780 The storage and handling of corrosive substances and Australian Standard AS1940 - The storage and handling of flammable and combustible liquids.

Storage Temperatures

Store below 35°C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards

Substance	Regulations	Exposure Duration	Exposure Limit	Units	Notes
Methyl ethyl ketone peroxide	Safe Work Australia	TWA	0. 2	ppm	Peak limit
Methyl ethyl ketone peroxide	Safe Work Australia	TWA	1. 5	mg/m3	Peak limit
Methyl ethyl ketone	Safe Work Australia	TWA	150	ppm	
Methyl ethyl ketone	Safe Work Australia	TWA	445	mg/m3	
Methyl ethyl ketone	Safe Work Australia	STEL	300	ppm	
Methyl ethyl ketone	Safe Work Australia	STEL	890	mg/m3	
Hydrogen peroxide	Safe Work Australia	TWA	1	ppm	
Hydrogen peroxide	Safe Work Australia	TWA	1. 4	mg/m3	

Biological Limit Values

Name:Methyl Ethyl Ketone
Determinant:Methyl Ethyl Ketone
Specimen:urine
BEI®: 2mg/l
Sampling time:End of shift.

Source: American Conference of Industrial Hygienists (ACGIH)

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. 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 butyl rubber. (breakthrough time: ≥8hours) 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

Form
Liquid

Appearance
Colourless liquid

Odour
Not available

Decomposition Temperature
SADT-Self Accelerating Decomposition Temperature.: 60°C (approximate). Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.This reaction may generate flammable vapours which may autoignite. The length of time to generate a decomposition reaction, after the SADT has been reached or exceeded, is dependent upon how much the SADT has been exceeded and the length of time needed for the reaction exotherm (heat spike from increasing decomposition rate) to initiate a rapid decomposition reaction. Typically, SADT is inversely proportional to package size. Larger packages will have a lower SADT due to smaller ratio to heat transfer area to volume of product.

Melting Point
Not available

Boiling Point
Not applicable, decomposes

Solubility in Water
1% miscible

pH Value
Not available

Vapour Pressure
50kPa (55°C)

Vapour Density (Air=1)
Not available

Evaporation Rate
Not available

Odour Threshold
Not available

Viscosity
Refer to Section 9: Kinematic Viscosity and Dynamic Viscosity

Colour
Colourless

Octanol/Water Partition Coefficient
Not available

Density
1.15g/cm^3 (20°C) (approximate)

Flash Point
63°C (approximate) (ISO 3679/80) (Setaflash Closed Cup)

Flammability
Not flammable

Auto-Ignition Temperature
Not available

Flammable Limits - Lower
Not available

Flammable Limits - Upper
Not available

Explosion Properties
Not available

Oxidising Properties
Not available

Kinematic Viscosity
Not available

Dynamic Viscosity
Not available

10. STABILITY AND REACTIVITY

Stability and reactivity
Refer to Section 10: Possibility of hazardous reactions

Chemical Stability
Stable under normal conditions of storage and handling.

Conditions to Avoid
Keep away from heat and sources of ignition (risk of self-accelerating exothermic decomposition). Protect from contamination.Violent decomposition can occur at temperatures above 60°C. Never return unused product to original container.

Incompatible materials
Strong oxidising agents, strong acids, transition metal salts, accelerators/promoters and reducing agents may result in a violent decomposition reaction or in product degradation. Avoid contact with contaminants (dust, rust, ash) and combustible material.

Hazardous Decomposition Products
Thermal decomposition may result in the release of toxic and/or irritating fumes including: carbon dioxide and carbon monoxide.

Hazardous Reactions
Reacts with incompatible materials.

Hazardous Polymerization
Not available

11. TOXICOLOGICAL INFORMATION

Toxicology Information
Available toxicity data is given below.

Inhalation
Inhalation of mist or vapour will result in respiratory irritation and possible harmful corrosive effects including burns, lesions of the nasal septum, pulmonary edema, and scarring of tissue.

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.

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
Ames test:
Not mutagenic in Ames test

Carcinogenicity
Hydrogen peroxide is listed as a Group 3: Not classifiable as to carcinogenicity to humans according to International Agency for Research on Cancer (IARC).

Acute Toxicity - Oral
Methyl ethyl ketone peroxide-40% in Dimethyl phthalate:
LD50 (rat): 1017mg/kg

Acute Toxicity - Dermal
Methyl ethyl ketone peroxide-60% in Dimethyl phthalate:
LD50 (rat): 1.8mL/kg, 3.6mL/kg

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

Skin Sensitisation
Methyl ethyl ketone peroxide-40% in Dimethyl phthalate/Diacetone alcohol
Method:Guinea pig maximisation test
Result: Did not show a sensitising effect

12. ECOLOGICAL INFORMATION

Ecotoxicity
The available ecological data is given below.

Persistence / Degradability
Product:
Not available

Methyl ethyl ketone peroxide-33% in Dimethyl phthalate:
Readily biodegradable
Method: OECD Test Guideline 301D,Closed bottle test

Mobility
Not available

Bioaccumulative Potential
Not available

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

Acute Toxicity - Fish
Methyl ethyl ketone peroxide-33% in Dimethyl phthalate:
LC50 (Poecilia reticulata): 44.2mg/l/96h

Acute Toxicity - Bacteria
Methyl ethyl ketone peroxide-33% in Dimethyl phthalate:
EC50 (Activated sludge): 48mg/l
Method:Activated sludge respiration inhibition test

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 if the Class 6 substance is a fire risk substance
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 - (CONTAINS: METHYL ETHYL KETONE PEROXIDE)

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 - (CONTAINS: METHYL ETHYL KETONE PEROXIDE)

IATA/ICAO Hazard Class
5.2

IATA/ICAO Symbol
Organic Peroxide

IMDG UN No
3105

IMDG Proper Shipping Name
ORGANIC PEROXIDE TYPE D, LIQUID - (CONTAINS: METHYL ETHYL KETONE PEROXIDE)

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
Harmful, Corrosive, Oxidising

16. OTHER INFORMATION

Date of preparation or last revision of MSDS
SDS Reviewed: November 2015, Supersedes: October 2010, November 2005

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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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 SDS