SAFETY DATA SHEET

CADOX L-50A VR

Version 1 Revision Date 05/06/2015 Print Date 12/28/2016 US / Z8

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	CADOX L-50A VR
Product Use Description	:	Curing agent
Company	:	Akzo Nobel Functional Chemicals B.V. Velperweg 76 Arnhem 6824 BM Netherlands
Telephone	:	+31263664433
Fax	:	+31263665830
E-mail address	:	RegulatoryAffairs@akzonobel.com
Emergency telephone	:	24 hours:+31 57 06 79211, CHEMTREC-USA:1-800-424-9300, CANUTEC-CANADA:1-613-996-6666, 化学事故应急咨询电话：国家化学事故应急响应中心+86532 8388 9090

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	liquid
Color	red
Odor	faint

GHS Classification

Organic peroxides, Type D
Skin corrosion, Category 1B
Serious eye damage, Category 1
Reproductive toxicity, Category 1B
Acute aquatic toxicity, Category 3
Chronic aquatic toxicity, Category 3

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H242 Heating may cause a fire.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H360 May damage fertility or the unborn child.

H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
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 away from dirt, rust, chemicals in particular.
P234 Keep only in original container.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P281 Use personal protective equipment as required.
Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/ physician.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P410 Protect from sunlight.
P420 Store away from other materials.
Disposal:
P501 Dispose of contents/container in accordance with local regulation.

Potential Health Effects

Inhalation : Inhalation of aerosols may cause irritation to mucous membranes.
Thermal decomposition can lead to release of irritating gases and vapors.

Skin : Symptoms may be delayed.
Causes severe skin burns.

Eyes : Causes serious eye damage.

Ingestion : Causes burns.
May be harmful if swallowed.

Aggravated Medical Condition : None known.

Symptoms of Overexposure : The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.

Carcinogenicity:

IARC	:	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	:	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Methyl ethyl ketone peroxide	1338-23-4	Org. Perox. A; H240 Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Acute 3; H402	30 - 50
Hydrogen peroxide solution	7722-84-1	Ox. Liq. 1; H271 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1A; H314 Eye Dam. 1; H318 STOT SE 3; H335 Aquatic Acute 2; H401 Aquatic Chronic 3; H412	1 - 5
Methyl ethyl ketone	78-93-3	Flam. Liq. 2; H225 Eye Irrit. 2A; H319 STOT SE 3; H336	1 - 5
Proprietary solvent		Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Repr. 1B; H360 STOT SE 3; H335	0.1 - 1

30-35% Methyl ethyl ketone peroxide solution in aliphatic ester

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

General advice : Immediate medical attention is required.
Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.

Inhalation : If breathed in, move person into fresh air.
Consult a physician after significant exposure.

Skin contact : Take off contaminated clothing and shoes immediately.
Rinse immediately with plenty of water.
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

Eye contact : Rinse with plenty of water.

Get medical attention immediately. Continue to rinse during transport of patient.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
Small amounts splashed into eyes can cause irreversible tissue damage and blindness.

Ingestion : Clean mouth with water and drink afterwards plenty of water.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.
Do not induce vomiting! May cause chemical burns in mouth and throat.

Notes to physician

Symptoms : The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.

Treatment : Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards during fire fighting / Specific hazards arising from the chemical : CAUTION: reignition may occur.
Supports combustion.
Water spray may be ineffective unless used by experienced firefighters.
Do not allow run-off from fire fighting to enter drains or water courses.
Heating may cause decomposition with release of toxic fumes.

Combustion products : Fire will produce smoke containing hazardous combustion products (see section 10).
Oxygen

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Use water spray to cool unopened containers.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

See also Section 9. Physical and chemical properties: Safety data

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental precautions	:	Prevent product from entering drains. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods for cleaning up / Methods for containment	:	Keep wetted with water. Soak up with inert absorbent material and dispose of as hazardous waste. Confinement must be avoided. Never return spills in original containers for re-use.
Additional advice	:	For personal protection see section 8.

7. HANDLING AND STORAGE

Handling

Advice on safe handling	:	For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations. Obtain special instructions before use.
Advice on protection against fire and explosion	:	Use explosion protected equipment. Keep away from sources of ignition - No smoking. No sparking tools should be used. Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps). Do not cut or weld on or near this container even when empty. Keep away from combustible material.
Temperature class	:	It is recommended to use electrical equipment of temperature group T3. However, autoignition can never be excluded.

Storage

Requirements for storage areas and containers	:	Prevent unauthorized access. No smoking. Electrical installations / working materials must comply with the technological safety standards. Keep only in original container. Store away from other materials.
Maximum storage temperature:	:	30 °C (86 °F)
Other data	:	No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Ingredients with workplace control parameters

Ingredients	CAS-No.	Value	Control parameters	Update	Basis	Form of exposure
Methyl ethyl ketone	1338-23-4	C	0.2 ppm	2013-03-01	ACGIH	

peroxide						
	Further information	:	Eye irritation Liver damage Kidney damage Skin irritation			
		C	0.2 ppm 1.5 mg/m3	2013-10-08	NIOSH REL	
		C	0.7 ppm 5 mg/m3	1989-01-19	OSHA P0	
Hydrogen peroxide	7722-84-1	TWA	1 ppm	2013-03-01	ACGIH	
	Further information	:	Upper Respiratory Tract irritation Eye irritation Skin irritation A3: Confirmed animal carcinogen with unknown relevance to humans			
		TWA	1 ppm 1.4 mg/m3	2013-10-08	NIOSH REL	
		TWA	1 ppm 1.4 mg/m3	1997-08-04	OSHA Z-1	
	Further information	:	(b): The value in mg/m3 is approximate.			
		TWA	1 ppm 1.4 mg/m3	1989-01-19	OSHA P0	
Methyl ethyl ketone	78-93-3	TWA	200 ppm	2013-03-01	ACGIH	
	Further information	:	Central Nervous System impairment Upper Respiratory Tract irritation Peripheral Nervous System impairment BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section)			
		STEL	300 ppm	2013-03-01	ACGIH	
	Further information	:	Central Nervous System impairment Upper Respiratory Tract irritation Peripheral Nervous System impairment BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section)			
		TWA	200 ppm 590 mg/m3	2013-10-08	NIOSH REL	
		ST	300 ppm 885 mg/m3	2013-10-08	NIOSH REL	
		TWA	200 ppm 590 mg/m3	1997-08-04	OSHA Z-1	
	Further information	:	(b): The value in mg/m3 is approximate.			
		TWA	200 ppm 590 mg/m3	1989-01-19	OSHA P0	
		STEL	300 ppm 885 mg/m3	1989-01-19	OSHA P0	

STEL: Short term exposure limit
TWA: Time Weighted Average

Hazardous components without workplace control parameters

Occupational exposure limits of decomposition products

Decomposition products	CAS-No.	Value	Control parameters	Update	Basis	Form of exposure
Formic acid	64-18-6, 64-18-6	TWA	5 ppm	2013-03-01	ACGIH	
	Further information	:	Upper Respiratory Tract irritation Eye irritation Skin irritation			
		STEL	10 ppm	2013-03-01	ACGIH	
	Further information	:	Upper Respiratory Tract irritation Eye irritation Skin irritation			

		TWA	5 ppm 9 mg/m3	2013-10-08	NIOSH REL	
		TWA	5 ppm 9 mg/m3	2011-07-01	OSHA Z-1	
	Further information	:	(b): The value in mg/m3 is approximate.			
		TWA	5 ppm 9 mg/m3	1989-01-19	OSHA P0	
Acetic acid	64-19-7, 64-19-7	TWA	10 ppm	2013-03-01	ACGIH	
	Further information	:	Pulmonary function Upper Respiratory Tract irritation Eye irritation			
		STEL	15 ppm	2013-03-01	ACGIH	
	Further information	:	Pulmonary function Upper Respiratory Tract irritation Eye irritation			
		TWA	10 ppm 25 mg/m3	2013-10-08	NIOSH REL	
	Further information	:	Can be found in concentrations of 5-8% in vinegar			
		ST	15 ppm 37 mg/m3	2013-10-08	NIOSH REL	
	Further information	:	Can be found in concentrations of 5-8% in vinegar			
		TWA	10 ppm 25 mg/m3	1997-08-04	OSHA Z-1	
	Further information	:	(b): The value in mg/m3 is approximate.			
		TWA	10 ppm 25 mg/m3	1989-01-19	OSHA P0	
Propionic acid	79-09-4, 79-09-4	TWA	10 ppm	2013-03-01	ACGIH	
	Further information	:	Upper Respiratory Tract irritation Eye irritation Skin irritation			
		TWA	10 ppm 30 mg/m3	2013-10-08	NIOSH REL	
		ST	15 ppm 45 mg/m3	2013-10-08	NIOSH REL	
		TWA	10 ppm 30 mg/m3	1989-01-19	OSHA P0	
Methyl ethyl ketone	78-93-3, 78-93-3	TWA	200 ppm	2013-03-01	ACGIH	
	Further information	:	Central Nervous System impairment Upper Respiratory Tract irritation Peripheral Nervous System impairment BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section)			
		STEL	300 ppm	2013-03-01	ACGIH	
	Further information	:	Central Nervous System impairment Upper Respiratory Tract irritation Peripheral Nervous System impairment BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section)			
		TWA	200 ppm 590 mg/m3	2013-10-08	NIOSH REL	
		ST	300 ppm 885 mg/m3	2013-10-08	NIOSH REL	
		TWA	200 ppm 590 mg/m3	1997-08-04	OSHA Z-1	
	Further information	:	(b): The value in mg/m3 is approximate.			
		TWA	200 ppm 590 mg/m3	1989-01-19	OSHA P0	
		STEL	300 ppm 885 mg/m3	1989-01-19	OSHA P0	

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Update
CADOX L-50A VR		methyl ethyl ketone: 2 mg/l (Urine)	End of shift	2014-03-01
		5-Hydroxy-N-methyl-2-pyrrolidone: 100 mg/l (Urine)	End of shift	2010-03-01

Remarks:

a	No time limit
b	Immediately after exposition or after working hours
c	In case of long-term exposition: after more than one shift
d	Before the next shift

Engineering measures

Explosion proof ventilation recommended.
Effective exhaust ventilation system
Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection	:	Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Hand protection	:	Glove material: butyl-rubber
	:	Glove material: Neoprene
Skin and body protection	:	Protective suit
Respiratory protection	:	In the case of vapor or aerosol formation use a respirator with an approved filter. Filter A
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

Environmental exposure controls

General advice	:	Prevent product from entering drains. If the product contaminates rivers and lakes or drains inform respective authorities.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	:	liquid
Color	:	red
Odor	:	faint
Odor Threshold	:	No data available

Safety data

pH	:	Weakly acidic
Melting point	:	No data available
Boiling point/boiling range	:	Decomposes below the boiling point.
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Vapor pressure	:	not determined
Relative vapor density	:	No data available
Relative density	:	1 at 20 °C
Bulk density	:	Not applicable
Water solubility	:	partly miscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	The substance or mixture is not classified as pyrophoric.
Decomposition temperature	:	SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT.
Self-Accelerating decomposition temperature (SADT)	:	60 °C
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Active Oxygen Content	:	8.8 - 9.0 %
Organic peroxides	:	30 - 35 %

This material safety datasheet only contains information relating to safety and does not replace any product information or product specification.

10. STABILITY AND REACTIVITY

Conditions to avoid	:	Confinement must be avoided. Heat, flames and sparks. For safety, store below: 30 °C (86 °F)
Materials to avoid	:	Contact with incompatible materials will result in hazardous decomposition. For queries regarding the suitability of other materials please contact the supplier. Do not mix with peroxide accelerators, unless under controlled processing. Use only stainless steel 316, PP, polyethylene or glass-lined equipment. Acids and bases Iron Copper Reducing agents Heavy metals Rust
Hazardous decomposition products	:	Formic acid Acetic acid Propionic acid Methyl ethyl ketone Carbon oxides
Thermal decomposition	:	SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT.
Reactivity	:	Stable under normal conditions.
Chemical stability	:	Stable under recommended storage conditions.
Hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Self-Accelerating decomposition temperature (SADT)	:	60 °C (140 °F)

11. TOXICOLOGICAL INFORMATION

PRODUCT INFORMATION:

Toxicology Assessment

Further information	:	May damage fertility or the unborn child.

Test result

Acute oral toxicity	:	Acute toxicity estimate: 2,808 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate : > 40 mg/l Exposure time: 4 h Test atmosphere: vapor Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Carcinogenicity:

IARC	:	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	:	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Component: Proprietary solvent

CMR effects	:	Reproductive toxicity: May damage the unborn child. Teratogenicity: Clear evidence of adverse effects on development, based on animal experiments.

Component: Methyl ethyl ketone peroxide

Acute oral toxicity	:	LD50: 1,017 mg/kg Species: Rat
Acute inhalation toxicity	:	LC50 (Rat): 17 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Skin irritation	:	Result: Causes burns.
Eye irritation	:	Result: Risk of serious damage to eyes.

Germ cell mutagenicity

Genotoxicity in vitro	:	Ames test Result: negative
Reproductive toxicity/Fertility	:	Species: Rat, male and female Application Route: Oral Dose: 0, 25, 50, 75 milligram per kilogram General Toxicity Parent: NOAEL (No observed adverse effect level): 50 mg/kg body weight/day General Toxicity F1: No observed adverse effect level F1: 50 mg/kg body weight/day Fertility: No observed adverse effect level Parent: 75 mg/kg body weight/day Method: OECD Test Guideline 421 GLP: yes

Target Organ Systemic Toxicant - Repeated exposure	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Aspiration toxicity	:	No aspiration toxicity classification

Component: Hydrogen peroxide solution

Acute oral toxicity	:	LD50: 602 mg/kg Species: Rat Method: OECD Test Guideline 401 Literature data.
Acute inhalation toxicity	:	LC50 : 20 mg/l Exposure time: 4 h Method: Expert judgment Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.
Skin irritation	:	Result: Causes severe burns.
Germ cell mutagenicity Genotoxicity in vivo	:	Species: Mouse Method: Mutagenicity (micronucleus test) Result: negative Literature data.

Component: Methyl ethyl ketone

Acute oral toxicity	:	LD50: 2,737 mg/kg Species: Rat
Skin irritation	:	Result: Repeated exposure may cause skin dryness or cracking. Moderately irritating.
Eye irritation	:	Result: Irritating to eyes.
Target Organ Systemic Toxicant - Single exposure	:	Routes of exposure: Inhalation The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.
Aspiration toxicity	:	No aspiration toxicity classification

Component: Proprietary solvent

Acute oral toxicity	:	LD50: 4,150 mg/kg Species: Rat Literature data.
Acute inhalation toxicity	:	LC50 (Rat): > 5.1 mg/l Exposure time: 4 h Test atmosphere: aerosol

Skin irritation	:	Result: Irritating to skin. Species: Rabbit Result: Skin irritation Literature data.
Eye irritation	:	Result: Irritating to eyes. Species: Rabbit Result: Irritating to eyes. Literature data.

Germ cell mutagenicity

Genotoxicity in vitro	:	in vitro test Result: No evidence of genotoxic effects in vitro. Literature data.
Genotoxicity in vivo	:	Result: No evidence of genotoxic effects in vivo.
Target Organ Systemic Toxicant - Single exposure	:	Routes of exposure: Inhalation Target Organs: Respiratory system The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation. The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Aspiration toxicity	:	No aspiration toxicity classification

12. ECOLOGICAL INFORMATION

PRODUCT INFORMATION:

Ecotoxicology Assessment

Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

Further information on ecology

Hazardous to the ozone layer

Regulation	:	40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks	:	This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Component: Methyl ethyl ketone peroxide

Acute aquatic toxicity	:	Harmful to aquatic life.

Component: Hydrogen peroxide solution

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

Component: Methyl ethyl ketone peroxide

Ecotoxicity effects

Toxicity to fish : LC50: 44.2 mg/l
Exposure time: 96 h
Species: Poecilia reticulata (guppy)
Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates : 39 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Test Type: Immobilization

Toxicity to algae : LC50: 5.6 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (algae)
Test Type: Growth inhibition

Toxicity to bacteria : EC10: 12 mg/l
Exposure time: 0.5 h
Species: activated sludge
Test Type: Respiration inhibition
Method: Domestic OECD Guideline 209

Elimination information (persistence and degradability)

Biodegradability : Result: Readily biodegradable.
Method: Closed Bottle test

Component: Hydrogen peroxide solution

Ecotoxicity effects

Toxicity to fish : LC50: 16.4 mg/l
Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)
Test Type: semi-static test
Literature data.

Toxicity to daphnia and other aquatic invertebrates : LC50: 2.4 mg/l
Exposure time: 48 h
Species: Daphnia pulex (Water flea)
Test Type: semi-static test
Literature data.

Toxicity to algae : ErC50: 1.38 mg/l
Exposure time: 72 h
Species: Skeletonema costatum
Test Type: static test
Literature data.

Elimination information (persistence and degradability)

Bioaccumulation : Bioaccumulation is unlikely.

Mobility	:	Can be leached out from soil.
Distribution among environmental compartments	:	Transport to air is not expected.

Further information on ecology

Biochemical Oxygen Demand (BOD)	:	No data available

Component: Methyl ethyl ketone

Ecotoxicity effects

Toxicity to fish	:	LC50: 3,220 mg/l Exposure time: 96 h Species: Lepomis macrochirus (Bluegill sunfish)

Elimination information (persistence and degradability)

Biodegradability	:	Result: Readily biodegradable.

Component: Proprietary solvent

Ecotoxicity effects

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 12.5 mg/l Exposure time: 21 d reproduction rate Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

Elimination information (persistence and degradability)

Bioaccumulation	:	No data available
Mobility	:	No data available
Biodegradability	:	Result: Not readily biodegradable. Result: Not readily biodegradable.

Further information on ecology

Biochemical Oxygen Demand (BOD)	:	No data available

13. DISPOSAL CONSIDERATIONS

Product	:	The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Hazardous waste Dispose of contents/container in accordance with local regulation.

Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not burn, or use a cutting torch on, the empty drum. Due to the high risk of contamination recycling/recovery is not recommended. Follow all warnings even after the container is emptied.

14. TRANSPORT INFORMATION

International Regulation

IATA-DGR

UN/ID No.	:	UN 3105
Proper shipping name	:	Organic peroxide type D, liquid (Methyl ethyl ketone peroxide)
Class	:	5.2
Subsidiary risk	:	HEAT
Packing group	:	Not Assigned
Labels	:	5.2 (HEAT)
Packing instruction (cargo aircraft)	:	570
Packing instruction (passenger aircraft)	:	570
Environmentally hazardous	:	no

IMDG-Code

UN number	:	UN 3105
Proper shipping name	:	ORGANIC PEROXIDE TYPE D, LIQUID (Methyl ethyl ketone peroxide)
Class	:	5.2
Packing group	:	Not Assigned
Labels	:	5.2
EmS Code	:	F-J, S-R
Marine pollutant	:	no

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

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number	:	UN 3105
Proper shipping name	:	Organic peroxide type D, liquid
	:	(Methyl ethyl ketone peroxide, <=45%)
Class	:	5.2
Packing group	:	II
Labels	:	5.2
ERG Code	:	145
Marine pollutant	:	no
Reportable Quantity	:	This product contains the following substance(s) which are environmentally hazardous per 49 CFR 172.101, Appendix A: (Methyl ethyl ketone peroxide)

15. REGULATORY INFORMATION

Notification status

CH INV	:	YES. On the inventory, or in compliance with the inventory

TSCA	:	YES. All chemical substances in this product are either listed on the TSCA Inventory or in compliance with a TSCA Inventory exemption.
DSL	:	NO. This product contains the following components that are not on the Canadian DSL nor NDSL.
AICS	:	YES. On the inventory, or in compliance with the inventory
NZIoC	:	NO. On the inventory, or in compliance with the inventory
ENCS	:	YES. On the inventory, or in compliance with the inventory
ISHL	:	NO. Not in compliance with the inventory
KECI	:	YES. On the inventory, or in compliance with the inventory
PICCS	:	YES. On the inventory, or in compliance with the inventory
IECSC	:	YES. On the inventory, or in compliance with the inventory

For explanation of abbreviations, see section 16.

TSCA list	:	Not relevant
OSHA Hazards	:	Organic Peroxide, Harmful by ingestion., Corrosive to skin, Severe eye irritant, Teratogen

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

Ingredients	CAS-No.	Component RQ (lbs)
Methyl ethyl ketone peroxide	1338-23-4	10 lbs

SARA 304 Extremely Hazardous Substances Reportable Quantity

Ingredients	CAS-No.	Component RQ (lbs)
Hydrogen peroxide solution	7722-84-1	1000 lbs

SARA 311/312 Hazards	:	Reactivity Hazard Acute Health Hazard Chronic Health Hazard
SARA 302	:	The following components are subject to reporting levels established by SARA Title III, Section 302: Hydrogen peroxide solution 7722-84-1
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals subject to disclosure and listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

Methyl ethyl ketone 78-93-3

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

Methyl ethyl ketone peroxide	1338-23-4	30 - 50 %
Hydrogen peroxide solution	7722-84-1	1 - 5 %
Methyl ethyl ketone	78-93-3	1 - 5 %

Pennsylvania Right To Know

2,2,4-Trimethyl-1,3-pentanediol diisobutanoate	6846-50-0	50 - 70 %
Methyl ethyl ketone peroxide	1338-23-4	30 - 50 %
Hydrogen peroxide solution	7722-84-1	1 - 5 %
Methyl ethyl ketone	78-93-3	1 - 5 %

New Jersey Right To Know

2,2,4-Trimethyl-1,3-pentanediol diisobutanoate	6846-50-0	50 - 70 %
Methyl ethyl ketone peroxide	1338-23-4	30 - 50 %
Water	7732-18-5	1 - 5 %
Hydrogen peroxide solution	7722-84-1	1 - 5 %
Methyl ethyl ketone	78-93-3	1 - 5 %
N-metyl-2-pyrrolidon	872-50-4	0.1 - 1 %

California Prop. 65

WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.
Proprietary solvent

16. OTHER INFORMATION

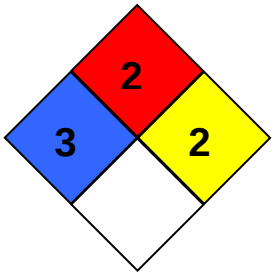
Full text of H-Statements

H225	:	Highly flammable liquid and vapor.
H240	:	Heating may cause an explosion.
H271	:	May cause fire or explosion; strong oxidizer.
H302	:	Harmful if swallowed.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H336	:	May cause drowsiness or dizziness.
H360	:	May damage fertility or the unborn child.
H401	:	Toxic to aquatic life.
H402	:	Harmful to aquatic life.
H412	:	Harmful to aquatic life with long lasting effects.

Further information

HMIS Classification : Health Hazard: 3
Flammability: 2
Reactivity: 2

NFPA Classification : Health Hazard: 3
Fire Hazard: 2
Reactivity Hazard: 2



Notification status explanation

REACH	1907/2006 (EU)
CH INV	Switzerland. New notified substances and declared preparations
TSCA	United States TSCA Inventory
DSL	Canadian Domestic Substances List (DSL)
AICS	Australia Inventory of Chemical Substances (AICS)
NZIoC	New Zealand. Inventory of Chemical Substances
ENCS	Japan. ENCS - Existing and New Chemical Substances Inventory
ISHL	Japan. ISHL - Inventory of Chemical Substances
KECI	Korea. Korean Existing Chemicals Inventory (KECI)
PICCS	Philippines Inventory of Chemicals and Chemical Substances (PICCS)
IECSC	China. Inventory of Existing Chemical Substances in China (IECSC)

Further information

Revision Date	05/06/2015

The information in this material safety data sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. The user must determine the appropriate measures that need to be implemented for the use and handling of this product in the c ontext of the user's operations and use of this product. The information contained herein supersedes all previously issued bulletins on the subject matter covered. If the date on this document is more than three years old,call to make certain that this sheet is current. No warranty is made as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. User must determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes, including mixing with other products. Nothing contained herein shall be construed as granting or extending any license under any patent.

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.