ThreeBond

SAFETY DATA SHEET

Issue date 04-Jan-2017 **Revision Date** 04-Jan-2017 **Version** 1

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product name Super Sealer No.2 RED

Recommended use of the chemical and restrictions on use

Recommended use Sealants
Silicone Sealant for construction ,
Glass joint sealant

Details of the supplier of the safety data sheet

Manufacturer
ThreeBond Manufacturing (Thailand) Co., Ltd.
700/432 Moo 7, Tumbol Donhuaroh, Amphur Muangchonburi, Chonburi 20000 THAILAND
TEL: +66-38-454-251
FAX: +66-38-717-048

Emergency telephone number
TEL: +(66)-38-454-251
FAX: +(66)-38-717-048

Registration Number(s) No information available

Section 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

Physical hazards	Not classified
Health hazards	
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1
Environmental hazards	Not classified

Label elements

Signal word Warning

Hazard statements
H319 - Causes serious eye irritation.
H317 - May cause an allergic skin reaction.

Precautionary Statements - Prevention
- Avoid breathing dust/fume/gas/mist/vapors/spray.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Wash thoroughly after handling.
- Contaminated work clothing should not be allowed out of the workplace.

Precautionary Statements - Response
- IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- IF IN EYES: If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Precautionary Statements - Storage
- Not available

Precautionary Statements - Disposal
- Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Weight-%
Butan-2-one O,O',O"-(methylsilylidyne)trioxime ; Methyloximesilane	22984-54-9	1 - <3
Butan-2-one O,O',O"-(vinylsilylidyne)trioxime ; Vinyloximesilane	2224-33-1	< 1
N-(3-(trimethoxysilyl)propyl)ethyleneiamine ; Alkoxysilane	1760-24-3	< 1
Octamethylcyclotetrasiloxane (Impurity)	556-67-2	< 0.2
Butanone oxime(Impurity) ; Methylethylketoxime	96-29-7	< 1

Section 4: FIRST AID MEASURES

Description of first aid measures

General advice Call 911 or emergency medical service Remove and isolate contaminated clothing and shoes

Eye contact Rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. For minor skin contact, avoid spreading material on unaffected skin. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Ingestion Rinse mouth. Get medical attention immediately .

For emergency responders

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves

Most important symptoms and effects, both acute and delayed

Symptoms Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash.

Indication of any immediate medical attention and special treatment needed

Note to physicians Keep victim warm and quiet

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media
None known.

Specific hazards arising from the chemical
By heating and fire, harmful vapors/gases may be formed.
Nitrogen oxides. (corrosive)

Protective equipment and precautions for firefighters
Firefighters must use standard protective equipment including flame retardant coat, helmet,gloves, rubber boots, and self-contained breathing apparatus.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Do not touch or walk through spilled material. Ensure adequate ventilation.Wear appropriate personal protective equipment.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Eliminate sources of ignition.

Methods for cleaning up Large Spills: Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal
Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Provide adequate ventilation. Use care in handling/storage. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Do not breathe mist or vapor. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure.

Conditions for safe storage, including any incompatibilities

Storage conditions Keep container tightly closed. Keep out of the reach of children. Store in a cool, dry place out of direct sunlight. Keep in original container.

Incompatible materials No information available

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure guidelines

Chemical name	STEL	TWA
Butanone oxime(Impurity) ; Methylethylketoxime (CAS No.96-29-7)	10 ppm	3 ppm
Butanone oxime ;Methylethylketoxime (CAS No.96-29-7)	10 ppm	3 ppm

Appropriate engineering controls

Engineering controls Provide adequate general and local exhaust ventilation. Provide eyewash station. Pay attention to ventilation such as local exhaust, mechanical and/or door open for at least 24 hours after application.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear suitable protective clothing.

Hand protection Wear protective gloves.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriatecertified respirators.

General hygiene considerations

Avoid contact with skin. Avoid contact with eyes. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Handle in accordance with good industrial hygiene and safety practice.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state Solid (Paste)
Odor Oxime odor
Color Red

Property	Values	Remarks
pH	No data available	
Melting point/freezing point	No data available	
Boiling point / boiling range	No data	
Flash point	204.8 °F (96 °C) Closed Cup (Does not sustain combustion)	
Evaporation rate	< 1 (Butyl Acetate=1)	
Vapor pressure	> 1 (air = 1)	
Vapor density	Negligible (25°C)	
Relative density	1.03 (25°C)	
Flammability (solid, gas)		
Flammability limit in air		
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Specific gravity	No data available	
Water solubility	Insoluble in water	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	

Section 10: STABILITY AND REACTIVITY

Stability Stable under normal conditions.

Possibility of hazardous reactions Hazardous polymerization does not occur.

Conditions to avoid Not available

Incompatible materials Strong oxidizing agents. Water, moisture.

Hazardous decomposition products This product reacts with water, moisture or humid air to evolve following compounds: Methylethylketoxime. Refer to section 8 : exposure controls/personal protection and section 11 :toxicological information.
Thermal breakdown of this product during fire or very high heat condition may evolve the following hazardous decomposition product: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Nitrogen oxides. Formaldehyde

Section 11: TOXICOLOGICAL INFORMATION

Information on possible routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	No significant effects are expected.
Symptoms related to exposure	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash.

Acute toxicity

Components	Species	Test Results
Butanone oxime(Impurity) ; Methylethylketoxime (CAS 96-29-7)		
Acute Dermal LD50 Inhalation Vapor LC50 Oral LD50	 Rabbit Rat Rat	 > 1000 mg/kg (Male and female) > 4.83 mg/l, 4 hours (Male and female) > 900 mg/kg (Male and female) 2326 mg/kg (Male)
N-(3-(trimethoxysilyl)propyl)ethyleneiamine ; Alkoxysilane (CAS 1760-24-3)		
Acute Dermal LD50 Oral LD50	 Rabbit Rat	 > 2000 mg/kg 16 ml/kg 2995 mg/kg 2400 mg/kg
Butanone oxime ; Methylethylketoxime (CAS 96-29-7)		
Acute Dermal LD50 Inhalation Vapor LC50 Oral LD50	 Rabbit Rat Rat	 > 1000 mg/kg (Male and female) > 4.83 mg/l, 4 hours (Male and female) > 900 mg/kg (Male and female) 2326 mg/kg (Male)

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	SKIN-RABBIT : Moderately irritating [Alkoxysilane] SKIN-RABBIT : 500mg/24hr MILD [Octamethylcyclotetrasiloxane]
Serious eye damage/irritation	Causes serious eye damage. [Vinyloximesilane] [Methylethylketoxime] EYE-RABBIT : 15mg SEVERE [Alkoxysilane] Causes serious eye irritation. [Methyloximesilane] EYE-RABBIT : MILD [Octamethylcyclotetrasiloxane]
Respiratory or skin sensitization Respiratory sensitization Skin sensitization	 Not available. May cause an allergic skin reaction. [Methyloximesilane] [Vinyloximesilane] [Methylethylketoxime] Positive (Guinea pig) [Alkoxysilane] No evidence of sensitization [Octamethylcyclotetrasiloxane]
Germ cell mutagenicity	Negative(Ames test, Chromosome analysis, Micronucleus test) [Alkoxysilane] Negative(Bacteria) [Octamethylcyclotetrasiloxane]
Carcinogenicity	Suspected of causing cancer. [Methylethylketoxime]
Reproductive toxicity	Octamethylcyclotetrasiloxane administered to rats by whole body inhalation at concentrations of 500 and 700 ppm for 70 days prior to mating, through mating, gestation and lactation resulted indecreases in live litter size. Additionally, increases in the incidence of deliveries of offspring extending over an unusually long time period (dystocia) were observed at these concentrations. Statistically significant alterations in these parameters were not observed in the lower concentrations evaluated (300 and 70 ppm). In a previous range-finding study, rats exposed to vapor concentrations of 700 ppm had decreases in the number of implantation sites and live litter size. The significance of these findings to humans is not known. [Octamethylcyclotetrasiloxane] Developmental toxicity: NOAEL 500mg/kg/day (Rat), Maternal toxicity: NOAEL 500mg/kg/day (Rat) [Alkoxysilane]
Specific target organ toxicity - Single exposure	Not available.
Specific target organ toxicity - repeated exposure	May cause damage to the following organs through prolonged or repeated exposure: Hematopoietic system. [Methyloximesilane] Hematopoietic system. [Vinyloximesilane] Repeated inhalation or oral exposure of mice and rats to octamethylcyclotetrasiloxane produced an increase in liver size. No gross histopathological or significant clinical chemistry effects were observed. An increase in liver metabolizing enzymes, as well as a transient increase in the number of normal cells (hyperplasia) followed by an increase in cell size (hypertrophy) were determined to be the underlying causes of the liver enlargement. The biochemical mechanisms producing these effects are highly sensitive in rodents, while similar mechanisms in humans are insensitive. A two year combined chronic and carcinogenicity assy was conducted on octamethylcyclotetrasiloxane. Rats were exposed by whole-body vapor inhalation 6hrs/day, 5days/week for up to 104weeks to 0, 10, 30, 150 or 700ppm of octamethylcyclotetrasiloxane. The increase in incidence of (uterine)endometrial cell hyperplasia and uterine adenomas(benign tumors) were observed in female rats at 700ppm. Since these effects only occurred at 700ppm, a level that greatly exceeds typical workplace or consumer exposure, it is unlikely that industrial, commercial or consumer uses of products containing octamethylcyclotetrasiloxane would result in a significant risk to humans. [Octamethylcyclotetrasiloxane]
Aspiration hazard	Not available.
Other information	Additional Information Methyl Ethyl Ketoxime (MEKO). Material will generate MEKO on exposure to humid air gradually. Male rodents exposed to MEKO vapor at high concentration throughout their lifetime developed liver cancer. But relevance to humans is uncertain now. Please read the detail information to MEKO below Skin Irritation;Causes mild irritation. Can be absorbed through the skin. Eyes Irritation;Causes severe irritation. Acute Oral Tox.;LD50(rat)= 4ml/kg. Acute Inhalation Tox.;LC50(rat)= >4.8mg/l/4Hr

	Inhalation Tox.;Shows narcotic action at high concentration. May produce blood effects Skin Sensitization ;Positive(guinea pig) Neurotoxicity ;High dose can produce transient and reversible change in neurobehavioral function. No evidence of cumulative neurotoxicity was detected. Carcinogenicity;Liver carcinomas were observed in a lifetime inhalation study (ca.2 years) in which mice and rats were exposed. These carcinomas were statistically increased in males at MEKO concentration of 375ppm. Relevance to humans is uncertain now. Mutagenicity ;Not considered mutagenic based on several in vitro and vivo studies. Other Chronic Study ;Degenerative effects on the olfactory epithelium of nasal passages occured in a concentration related manner in males and females of mice and rats at MEKO concentration of 15, 75 and 375ppm. Workplace Environmental Exposure Level; Vendor guide ; 3ppm(TWA), 10ppm(STEL), AIHA WEEL ; 10ppm(TWA)

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity		Toxic to aquatic life. [Alkoxysilane] May cause long lasting harmful effects to aquatic life. [Octamethylcyclotetrasiloxane]	
Components	Species		Test Results
Butanone oxime(Impurity) ; Methylethylketoxime (CAS 96-29-7)			
Aquatic Fish	LC50	Fathead minnow (Pimephales promelas)	777 - 914 mg/l, 96 hours
N-(3-(trimethoxysilyl)propyl)ethyleneiamine ; Alkoxysilane (CAS 1760-24-3)			
Aquatic Algae Crustacea Fish	EbC50 ErC50 EC50 NOEC LC50	Green algae (Selenastru capricornutum) Green algae (Selenastru capricornutum) Daphnia magna Daphnia magna Brachydanio rerio	5.5 mg/l, 72 hr 8.8 mg/l, 72 hr 90 mg/l, 48 hr 81 mg/l, 48 hr > 1 mg/l, 21 day 597 mg/l, 96 hr
Butanone oxime ; Methylethylketoxime (CAS 96-29-7)			
Aquatic Fish	LC50	Fathead minnow (Pimephales promelas)	777 - 914 mg/l, 96 hours
Persistence and degradability		Causes easily hydrolysis in water or atmosphere. [Alkoxysilane]	
Bioaccumulative potential		Bio concentration Factor(BCF) / (Fathead minnows) : 12400 [Octamethylcyclotetrasiloxane]	
Mobility in soil		Not available.	
Mobility in general		No data available	
Other adverse effects		Not available.	

Section 13: DISPOSAL CONSIDERATIONS

Waste from residues / unused products

Disposal should be in accordance with applicable regional, national and local laws and regulations. Disposal methods Not hardening substance : Incinerate. Incinerator should be appropriately equipped for silica and other fine powder which the product will generate in incineration. Workers should wear appropriate personal protective equipment(s) such as respirator.Hardening substance : Bury or incinerate. Incinerator should be appropriately equipped for silica and other fine powder which the product will generate in incineration. Workers should wear appropriate personal protective equipment(s) such as respirator. Contract with a disposal operator licensed by the Law on Disposal and Cleaning. Dispose of contents/container in accordance with local/regional/national/international regulations.

Residual waste

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see:Disposal instructions).Contaminated packaging.

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Section 14: TRANSPORT INFORMATION

IMDG Not regulated

ICAO/IATA (air) Not regulated

ADR Not regulated

Section 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Thailand - Hazardous Substances Not applicable
Enhancement and Conservation of National Environmental Quality Act Not applicable

Section 16: OTHER INFORMATION

Key literature references and sources for data
ACGIH - Threshold Limit Values
U.S. - OSHA - Final PELs
Japan - Recommended Exposure Limits

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Revision note The symbol (*) in the margin of this SDS indicates that this line has been revised.

End of Safety Data Sheet