



SAFETY DATA SHEET

1. Identification of the substance or mixture and of the supplier

1.1 GHS product identifier LASERLITE ROOF&GUTTER CLEAR

1.2 Other means of identification

Sales Code

1.3 Recommendations and restrictions on the use of substances or mixtures

Recommended use Sealants
Silicone Sealant for construction

Recommended restrictions Industrial use only.

1.4 Supplier's details

MANUFACTURER

COMPANY NAME OCI Material Pratama
CONTACT Customer Services Department
ADDRESS Jl. Inti Raya Block C4 No.2-3 Bekasi 17550 - Indonesia
TELEPHONE NUMBER +6221 – 8990 1671
FAX NUMBER +6221 – 897 3261

OFFICE

COMPANY NAME OCI Material Pratama
CONTACT Customer Services Department
ADDRESS Altira Tower 38th Floor, Altira Business Park, Jl. Yos Sudarso Kav.85, Jakarta 14350 - Indonesia
TELEPHONE NUMBER +6621 – 2188 2000
FAX NUMBER +6621 – 2188 2002
EMERGENCY
E-MAIL info@oci-international.com

2. Hazards identification

2.1 GHS classification of substance or mixture, and national or regional information

Physical hazards Not classified.
Health hazards Serious eye damage/eye irritation Category 2A
Sensitization, skin Category 1B
Environmental hazards Not classified.

*Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".

2.2 GHS label elements

Hazard symbol(s)



Signal word Warning

Hazard statement(s) Causes serious eye irritation. May cause an allergic skin reaction.

Precautionary statement(s)

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.

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 eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

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

2.3 Other hazards which do not result in GHS classification This product reacts with water, moisture or humid air to evolve following compounds: Methylethylketoxime

Supplemental information None.

3. Composition/information on ingredients

3.2 Mixture

Chemical identity	CAS number and other unique identifiers	Concentration or concentration range
Methyltri(ethylmethylketoxime)silane	22984-54-9	1 - < 3
Vinyltri(methylethylketoxime)silane	2224-33-1	< 1
N-(3-(trimethoxysilyl)propyl)ethylenediamine	1760-24-3	< 1
Octamethylcyclotetrasiloxane (Impurity)	556-67-2	< 0.2
Methylethylketoxime (Impurity)	96-29-7	< 1

Decomposition

Chemical identity	CAS number and other unique identifiers	Concentration or concentration range
Methylethylketoxime	96-29-7	

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

4.1 Description of first-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
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.
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.
Ingestion	Rinse mouth. Get medical attention immediately.

4.2 Most important symptoms/effects, acute and delayed Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash.

4.3 Indication of immediate medical considerations and important specific treatment that should be performed Treat symptomatically.

General advice Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

5.1 Prohibited extinguishing media and suitable extinguishing media

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	None known.

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

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

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures 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.

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

6.3 Methods and materials for containment and cleaning up

Eliminate sources of ignition.

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.

7. Handling and storage

7.1 Precautions for safe handling, use and storage

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 eyes. Avoid contact with skin. Avoid prolonged exposure.

7.2 Conditions for safe storage, including any incompatibilities

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.

8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Vendor guide Components	Type	Value
Methylethylketoxime(Impurity) (CAS 96-29-7)	STEL	10 ppm
	TWA	3 ppm
Decomposition	Type	Value
Methylethylketoxime (CAS 96-29-7)	STEL	10 ppm
	TWA	3 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

Occupational Exposure Limits are not relevant to the current physical form of the product.

8.2 Appropriate 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.

8.3 Personal protective measures

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection Hand protection

Wear protective gloves.

Other

Wear suitable protective clothing.

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. Avoid contact with eyes. Avoid contact with skin. 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.

9. Physical and chemical properties

9.1 Appearance

Physical state	Solid.
Form	Paste.
Color	Translucent

9.2 Odor Oxime odor

9.3 Odor threshold limit Not available.

9.4 pH Not measurable (Refer to water solubility)

9.5 Melting point/freezing point No data

9.6 Initial boiling point and boiling range	Not applicable
9.7 Flash point	204.8 °F (96 °C) Closed Cup (Does not sustain combustion)
9.8 Evaporation rate	< 1 (Butyl Acetate=1)
9.9 Flammability (solid, gas)	Not applicable.
9.10 Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	No data
Flammability limit - upper (%)	No data
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
9.11 Vapor pressure	Negligible (25 °C)
9.12 Vapor density	> 1 (air=1)
9.13 Relative density	1.03 (25 °C)
9.14 Solubility	
Solubility (water)	Not soluble
9.15 Partition coefficient: n-octanol/water	Not applicable
9.16 Auto-ignition temperature	No data
9.17 Decomposition temperature	Not available.
9.18 Viscosity	Not applicable
Other information	
Molecular weight	Not applicable
10. Stability and reactivity	
10.1 Reactivity	No hazardous reaction known under normal conditions of use, storage and transport.
10.2 Chemical stability	Stable at normal conditions.
10.3 Possibility of hazardous reactions	Hazardous polymerization does not occur.
10.4 Conditions to avoid	Not available.
10.5 Incompatible materials	Strong oxidizing agents. Water, moisture.
10.6 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.
11. Toxicological information	
11.1 Information on likely 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.
11.2 Symptoms related to physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash.
11.3 Delayed and immediate effects, including chronic effects from short- and long-term exposure	Occupational exposure to the substance or mixture may cause adverse effects.
11.4 Numerical values of toxicity	
Acute toxicity	

Components	Species	Test Results
N-(3-(trimethoxysilyl)propyl)ethylenediamine		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 2000 mg/kg 16 ml/kg
Oral		
LD50	Rat	2995 mg/kg 2400 mg/kg
Methylethylketoxime(Impurity) (CAS 96-29-7)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 1000 mg/kg (Male and female)
Inhalation		
VAPOR		
LC50	Rat	> 4.83 mg/l, 4 hours (Male and female)
Oral		
LD50	Rat	> 900 mg/kg (Male and female) 2326 mg/kg (Male)
Decomposition	Species	Test Results
Methylethylketoxime (CAS 96-29-7)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 1000 mg/kg (Male and female)
Inhalation		
VAPOR		
LC50	Rat	> 4.83 mg/l, 4 hours (Male and female)
Oral		
LD50	Rat	> 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 [N-(3-(trimethoxysilyl)propyl)ethylenediamine] SKIN-RABBIT : 500mg/24hr MILD [Octamethylcyclotetrasiloxane]	
Serious eye damage/eye irritation	Causes serious eye damage. [Vinyltri(methylethylketoxime)silane] [Methylethylketoxime] EYE-RABBIT : 15mg SEVERE [N-(3-(trimethoxysilyl)propyl)ethylenediamine] Causes serious eye irritation. [Methyloximesilane] EYE-RABBIT : MILD [Octamethylcyclotetrasiloxane]	
Respiratory or skin sensitization		
Respiratory sensitization	Not available.	
Skin sensitization	May cause an allergic skin reaction. [Methyltri(ethylmethylethylketoxime)silane] [Vinyltri(methylethylketoxime)silane] [Methylethylketoxime] Positive (Guinea pig) [N-(3-(trimethoxysilyl)propyl)ethylenediamine] 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 in decreases 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) [N-(3-(trimethoxysilyl)propyl)ethylenediamine]	

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. [Vinyltri(methylethylketoxime)silane]
 Hematopoietic system. [Methyltri(ethylmethylketoxime)silane]
 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 assay 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.

Further 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)= >900mg/kg.
 Acute Inhalation Tox.;LC50(rat) > 4.83mg/l/4Hr
 Acute Dermal Tox. ;LD50(rabbit)= >1000mg/kg.
 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 occurred in a concentration related manner in males and females of mice and rats at MEKO concentration of 15, 75 and 375ppm. The significant change in hematological parameters were observed at 404ppm concentration.
 Workplace Environmental Exposure Level; Vendor guide ; 3ppm(TWA), 10ppm(STEL), AIHA WEEL ; 10ppm(TWA)

12. Ecological information

12.1 Ecological toxicity Toxic to aquatic life. [N-(3-(trimethoxysilyl)propyl)ethylenediamine]
 May cause long lasting harmful effects to aquatic life. [Octamethylcyclotetrasiloxane]

Components	Species	Test Results
N-(3-(trimethoxysilyl)propyl)ethylenediamine		
Aquatic		
Algae	EbC50	Green algae (Selenastrum capricornutum) 5.5 mg/l, 72 hr
	ErC50	Green algae (Selenastrum capricornutum) 8.8 mg/l, 72 hr
Crustacea	EC50	Daphnia magna 90 mg/l, 48 hr
	NOEC	Daphnia magna 81 mg/l, 48 hr
Fish	NOEC	Daphnia magna > 1 mg/l, 21 day
	LC50	Brachydanio rerio 597 mg/l, 96 hr

Components	Species	Test Results
Methylethylketoxime(Impurity) (CAS 96-29-7)		
Aquatic		
Fish	LC50	Fathead minnow (Pimephales promelas) 777 - 914 mg/l, 96 hours
Decomposition	Species	Test Results
Methylethylketoxime (CAS 96-29-7)		
Aquatic		
Fish	LC50	Fathead minnow (Pimephales promelas) 777 - 914 mg/l, 96 hours

12.2 Persistence and degradability Causes easily hydrolysis in water or atmosphere. [N-(3-(trimethoxysilyl)propyl)ethylenediamine]

12.3 Bioaccumulative potential Bio concentration Factor(BCF) / (Fathead minnows) : 12400 [Octamethylcyclotetrasiloxane]

12.4 Mobility in soil No data available.

Mobility in general No data available.

12.5 Other adverse effects Not available.

13. Disposal considerations

Disposal instructions 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.

Local disposal regulations Not available.

Waste from residues / unused products 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 Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

ADR
IATA
IMDG

Not regulated as dangerous goods.
Not regulated as dangerous goods.
Not regulated as dangerous goods.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This product is not intended to be transported in bulk.

15. Regulatory information

Federal regulations

- Thailand. Explosive Substances & Precursors (Ministry of Defense Notification Re: Arms Subject to Imports License)**
Not regulated.
- Thailand. Notification of the Ministry of Interior, Re: Work Safety Relating to Dangerous Chemicals**
Not regulated.
- Thailand. Notification of the Ministry of Interior, Re: Work Safety Relating to More Dangerous Chemicals**
Not regulated.
- Thailand. Reportable Hazardous Substances (Notification of Ministry of Industry Re: Bases respecting report of quantity of hazardous materials under Department of Industrial Works, B.E. 2547)**
Not regulated.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 12-07-2019

Version # 01

Disclaimer This information is offered in good faith as typical values and not as a product specification. No warranty, expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate. This product has been designed, manufactured and developed solely for general industrial use only. This product is not designed for, intended for use as, or suitable for, medical, surgical or other particular purposes. Users have the sole responsibility and obligation to determine the suitability of this product for any application, to make preliminary tests, and to confirm the safety of this product for their use. Users must never use this product for the purpose of implantation into the human body and/or injection into humans.

Revision information Product and Company Identification: Product and Company Identification
Composition / Information on Ingredients: Additional Components
Physical & Chemical Properties: Multiple Properties
Toxicological Information: Toxicological Data
Ecological Information: Ecotoxicity
Transport Information: Material Transportation Information
Regulatory Information: Regulatory Information
HazReg Data: International Inventories
GHS: Classification