



## Safety Data Sheet according to GB/T 16483-2008

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LOCTITE 638

SDS No. : 153473

V001.8

Revision: 13.04.2016

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### 1. Identification of the substance/preparation and of the company/undertaking

**Product name:** LOCTITE 638

**Intended use:** Anaerobic Adhesive

**Company name:**

Henkel (China) Investment Co. Ltd.  
No.928 Zhangheng Rd.  
201203 Pudong, Shanghai, P.R. China

China

Phone: +86-21-2891 8000

Fax-no.: +86-21-2891 5137

**Revision date:** 13.04.2016

**Emergency information:** Emergency telephone: +86 532 8388 9090 (24h).

### 2. Hazards identification

**Classification of the substance or mixture according to GB 13690-2009 (General rule for classification and hazard communication of chemicals):**

<u>Hazard Class</u>	<u>Hazard Category</u>	<u>Target organ</u>
Skin corrosion/irritation	Category 1A	
Serious eye damage/eye irritation	Category 1	
Skin sensitizer	Category 1	
Specific target organ toxicity - single exposure	Category 3	respiratory tract irritation
Chronic hazards to the aquatic environment	Category 3	

**Label elements according to GB 15258-2009 (General rules for preparation of precautionary label for chemicals):**

**Hazard pictogram:**



**Signal word:** Danger

<b>Hazard statement:</b>	H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H335 May cause respiratory irritation. H412 Harmful to aquatic life with long lasting effects.
<b>Prevention:</b>	P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P264 Wash hands thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection.
<b>Response:</b>	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+P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P362+P364 Take off contaminated clothing and wash it before reuse.
<b>Storage:</b>	P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.
<b>Disposal:</b>	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

### 3. Composition / information on ingredients

**General description:** Mixture  
**Declaration of the ingredients according to GB 13690-2009:**

Hazard component CAS-No.	Content	GHS Classification
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	20- < 30 %	Serious eye damage/eye irritation 2A H319 Skin sensitizer 1 H317
Acrylic acid 79-10-7	1- < 10 %	Flammable liquids 3 H226 Acute toxicity 4; Oral H302 Acute toxicity 4; Inhalation H332 Acute toxicity 4; Dermal H312 Skin corrosion/irritation 1A H314 Specific target organ toxicity - single exposure 3 H335 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 2 H411
Cumene hydroperoxide 80-15-9	1- < 10 %	Flammable liquids 4 H227 Organic peroxides E H242 Acute toxicity 4; Oral H302 Acute toxicity 3; Inhalation H331 Acute toxicity 4; Dermal H312 Skin corrosion/irritation 1B H314 Specific target organ toxicity - repeated exposure 2 H373 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 2 H411
Methacrylic acid 79-41-4	1- < 10 %	Flammable liquids 4 H227 Acute toxicity 4; Oral H302 Acute toxicity 4; Inhalation H332 Acute toxicity 3; Dermal H311 Skin corrosion/irritation 1A H314 Acute hazards to the aquatic environment 3 H402
Acetic acid, 2-phenylhydrazide 114-83-0	0.1- < 1 %	Acute toxicity 3; Oral H301 Skin corrosion/irritation 2 H315 Serious eye damage/eye irritation 2A H319 Skin sensitizer 1 H317 Carcinogenicity 2 H351 Specific target organ toxicity - single exposure 3; Inhalation H335
2-Hydroxyethyl methacrylate 868-77-9	0.1- < 1 %	Acute toxicity 5; Dermal H313 Skin corrosion/irritation 2 H315 Serious eye damage/eye irritation 2A H319

		Skin sensitizer 1 H317
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Only hazardous ingredients for which a classification according to GB 13690-2009 is already available are displayed in this table. For full text of the Hazard statements see section 16 "Other information".

**4. First aid measures**

- Skin contact:** Rinse with running water and soap.  
Obtain medical attention if irritation persists.
- Eye contact:** Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.
- Inhalation:** Move to fresh air. If symptoms persist, seek medical advice.
- Ingestion:** Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

**5. Fire fighting measures**

- Extinguishing media:** Carbon dioxide, foam, powder
- Fire-fighting method:** In case of fire, keep containers cool with water spray.
- Notice and measures for firing fighting:** In the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx) can be released.  
Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

**6. Accidental release measures**

- Emergency measures:** Avoid skin and eye contact.  
Do not let product enter drains.
- Clean-up methods:** For small spills wipe up with paper towel and place in container for disposal.  
For large spills absorb onto inert absorbent material and place in sealed container for disposal.

**7. Handling and storage**

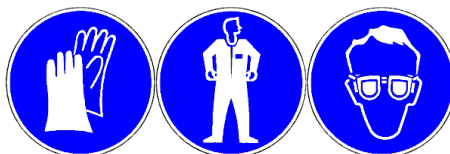
- Notice for handling:** Use only in well-ventilated areas.  
Avoid skin and eye contact.
- Notice for storage:** Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation.  
Store in original containers at 8-21°C (46.4-69.8°F) and do not return residual materials to containers as contamination may reduce the shelf life of the bulk product.

**8. Exposure controls / personal protection**

Hazardous components	GBZ 2.1-2007	ACGIH	NIOSH	OSHA
Acrylic acid	(SKIN) 6 mg/m <sup>3</sup> PC-TWA	2 ppm TWA		none
Methacrylic acid	70 mg/m <sup>3</sup> PC-TWA	20 ppm TWA		none

- Engineering controls:** Use local exhaust ventilation if the potential for airborne exposure exists.
- Respiratory protection:** Use only in well-ventilated areas.  
An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area  
Filter type: A
- Eye protection:** Wear protective glasses.
- Body protection:** Wear suitable protective clothing.
- Hand protection:** Chemical-resistant protective gloves (EN 374).  
Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):  
nitrile rubber (NBR; >= 0.4 mm thickness)  
Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):  
nitrile rubber (NBR; >= 0.4 mm thickness)  
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.
- Other protection:** The selection of PPE shall at least compliant with "Law of the People's Republic of China on Prevention and Control of Occupational Diseases" and "Code of practice for selection of personal protective equipments" (GB/T 11651-2008).  
Good industrial hygiene practices should be observed.

**Pictograms for recommended PPE:**



**9. Physical and chemical properties**

Physical state:	liquid	Appearance:	green liquid
<b>pH:</b>	Not applicable	Melting point:	Not available.
Boiling point:	> 100.0 °C (> 212 °F)	Density:	1.0500 g/cm <sup>3</sup>
Flash point:	> 93.3 °C (> 199.94 °F)	Ignition temperature:	Not available.
Solubility in water	Slightly soluble	Viscosity:	2,000 - 3,000 mPa.s

## 10. Stability and reactivity

<b>Conditions to avoid:</b>	No decomposition if used according to specifications.
<b>Incompatible products:</b>	Reaction with strong acids. Reacts with strong oxidants.
<b>Decomposition products:</b>	None if used for intended purpose. In case of fire toxic gases can be released.
<b>Hazardous polymerization:</b>	Will not occur.

## 11. Toxicological information

**Oral toxicity:**

Acute toxicity estimate (ATE) : > 5,000 mg/kg  
Method: Calculation method

**Inhalative toxicity:**

Acute toxicity estimate (ATE) : > 40 mg/l  
Exposure time: 4 h  
Test atmosphere: Vapor.  
Method: Calculation method

**Dermal toxicity:**

Acute toxicity estimate (ATE) : > 5,000 mg/kg  
Method: Calculation method

**Other remarks:**

Not available.

**Acute toxicity:**

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	LD50	> 2,000 mg/kg	oral	4 h	rat	OECD Guideline 401 (Acute Oral Toxicity)
	LD50	> 5,000 mg/kg	dermal		rabbit	
Acrylic acid 79-10-7	LD50	1,500 mg/kg	oral	4 h	rat	BASF Test OECD Guideline 403 (Acute Inhalation Toxicity) Expert judgement Expert judgement OECD Guideline 402 (Acute Dermal Toxicity)
	LC50	> 5.1 mg/l	inhalation		rat	
	Acute toxicity estimate (ATE)	11 mg/l	inhalation			
	Acute toxicity estimate (ATE)	1,100 mg/kg	dermal		rabbit	
Cumene hydroperoxide 80-15-9	LD50	550 mg/kg	oral	4 h	rat	OECD Guideline 401 (Acute Oral Toxicity) OECD Guideline 403 (Acute Inhalation Toxicity) Expert judgement Dermal Toxicity Screening
	LD50	550 mg/kg	oral		rat	
Methacrylic acid 79-41-4	LD50	1,320 mg/kg	oral	4 h	rat	OECD Guideline 401 (Acute Oral Toxicity) OECD Guideline 403 (Acute Inhalation Toxicity) Expert judgement Dermal Toxicity Screening
	LC50	> 3.6 mg/l	inhalation		rat	
	Acute toxicity estimate (ATE)	500 mg/kg	dermal		rabbit	
	Acute toxicity estimate (ATE)	500 - 1,000 mg/kg	dermal		rabbit	
2-Hydroxyethyl methacrylate 868-77-9	LD50	> 3,000 mg/kg	dermal		rabbit	

**Skin corrosion/irritation:**

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Acrylic acid 79-10-7	highly corrosive	3 min	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Cumene hydroperoxide 80-15-9	corrosive		rabbit	Draize Test
Methacrylic acid 79-41-4	Category 1A (corrosive)	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

**Serious eye damage/irritation:**

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Acrylic acid 79-10-7	corrosive	21 d	rabbit	BASF Test
Methacrylic acid 79-41-4	Category I		rabbit	Draize Test

**Respiratory or skin sensitization:**

Hazardous components CAS-No.	Result	Test type	Species	Method
Acrylic acid 79-10-7	not sensitising	Skin painting test	guinea pig	
Methacrylic acid 79-41-4	not sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)

**Germ cell mutagenicity:**

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Acrylic acid 79-10-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		
Cumene hydroperoxide 80-15-9	positive	bacterial reverse mutation assay (e.g Ames test)	without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Cumene hydroperoxide 80-15-9	negative	dermal		mouse	
Methacrylic acid 79-41-4	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Methacrylic acid 79-41-4	negative	inhalation		mouse	OECD Guideline 478 (Genetic Toxicology: Rodent Dominant Lethal Test)
2-Hydroxyethyl methacrylate 868-77-9	negative positive	bacterial reverse mutation assay (e.g Ames test) in vitro mammalian chromosome aberration test	with and without with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay) OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)

**Repeated dose toxicity:**

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
Cumene hydroperoxide 80-15-9		inhalation: aerosol	6 h/d5 d/w	rat	

**12. Ecological information**

**General ecological information:**

Do not empty into drains, soil or bodies of water.

**Ecotoxicity:**

No data available.



**Other adverse effects:**  
Not available.

**Toxicity:**

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	LC50	493 mg/l	Fish	48 h	Leuciscus idus melanotus	DIN 38412-15
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	EC50	> 130 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	EC10	1,140 mg/l	Bacteria	16 h		
Acrylic acid 79-10-7	LC50	27 mg/l	Fish	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	EPA OTS 797.1400 (Fish Acute Toxicity Test)
Acrylic acid 79-10-7	EC10	0.03 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Acrylic acid 79-10-7	EC50	0.13 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Acrylic acid 79-10-7	EC10	41 mg/l	Bacteria	16 h		
Cumene hydroperoxide 80-15-9	LC50	3.9 mg/l	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Cumene hydroperoxide 80-15-9	EC50	18 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Cumene hydroperoxide 80-15-9	ErC50	3.1 mg/l	Algae	72 h	Pseudokirchnerella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Cumene hydroperoxide 80-15-9	EC10	70 mg/l	Bacteria	30 min		
Methacrylic acid 79-41-4	LC50	85 mg/l	Fish	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	EPA OTS 797.1400 (Fish Acute Toxicity Test)
Methacrylic acid 79-41-4	EC50	> 130 mg/l	Daphnia	48 h	Daphnia magna	EPA OTS 797.1300 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids)
Methacrylic acid 79-41-4	NOEC	8.2 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Methacrylic acid 79-41-4	EC50	45 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Methacrylic acid 79-41-4	EC10	100 mg/l	Bacteria	17 h		
2-Hydroxyethyl methacrylate 868-77-9	LC50	227 mg/l	Fish	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-Hydroxyethyl methacrylate 868-77-9	EC50	380 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-Hydroxyethyl methacrylate 868-77-9	EC50	345 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Hydroxyethyl methacrylate 868-77-9	NOEC	160 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

2-Hydroxyethyl methacrylate 868-77-9	ECO	> 3,000 mg/l	Bacteria	16 h	subcapitata)	Inhibition Test)
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**Persistence and degradability:**

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	readily biodegradable	aerobic	94.2 %	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
Acrylic acid 79-10-7	readily biodegradable	aerobic	81 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Acrylic acid 79-10-7	inherently biodegradable	aerobic	100 %	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
Cumene hydroperoxide 80-15-9		no data	0 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Methacrylic acid 79-41-4	inherently biodegradable	aerobic	100 %	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
Methacrylic acid 79-41-4	readily biodegradable	aerobic	86 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
2-Hydroxyethyl methacrylate 868-77-9	readily biodegradable	aerobic	92 - 100 %	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))

**Bioaccumulative potential / Mobility in soil:**

Hazardous components CAS-No.	LogKow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	0.97					
Acrylic acid 79-10-7		3.16				
Acrylic acid 79-10-7	0.46				25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Cumene hydroperoxide 80-15-9		9.1		calculation		OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
Cumene hydroperoxide 80-15-9	2.16					
Methacrylic acid 79-41-4	0.93				22 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Acetic acid, 2-phenylhydrazide 114-83-0	0.74					

**13. Disposal considerations****Product disposal:**

If the waste is classified as hazardous waste according to GB 5085.7-2007 (Identification standards for hazardous wastes, General Specifications). Dispose of as hazardous waste in compliance with "Regulation on the Safety Management of Hazardous Chemicals", "Law of the People's Republic of China on the prevention and control of Environmental Pollution by Solid Waste", "National Catalogue of Hazardous Waste".

**Disposal of uncleaned packages:** After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated. Disposal must be made according to official regulations.

#### 14. Transport information

**General information:**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**Notice For Transportation:**

Transport according to local and national regulations. Ensure containers will not leak, collapse, or being damaged when transported. DO NOT transport with incompatible materials. Transportation vehicle should be equipped with right fire-fighting equipment in case of emergency. Avoid solarization, drenched and high temperature when transported.

#### 15. Regulatory information

The following laws and regulations lay down provisions in terms of chemicals safety use, storage, transportation, loading/unloading, classification as well as symbol.

“Law of the People's Republic of China on Work Safety” (Adopted by the 28th meeting of 9th NPC standing committee on 29th June 2002, revised by 10th meeting of 12nd NPC standing committee on 31st Aug 2014).

“Law of the People's Republic of China on the Prevention and Treatment of Occupational Diseases” (Adopted by the 24th meeting of 9th NPC standing committee on 27th October 2001, revised by 24th meeting of 11st NPC standing committee on 31st Dec 2011).

“Law of the People's Republic of China on environmental protection” (Adopted by 11st meeting of 7th NPC standing committee on 26th December 1989, revised by 8th meeting of 12nd NPC standing committee on 24th Apr 2014).

“Regulation on the Safety Management of Hazardous Chemicals” (Adopted by 144th State Council executive meeting on 16th February 2011).

“Regulations on License to Work Safety” (Adopted by 54th State Council executive meeting on 29th July 2014).

#### 16. Other information

**Issue date:**

22.06.2017

**Issue department:**

Dayong Tian, Product Safety & Regulatory Affairs Specialist for Greater China

**Disclaimer:**

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties. The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation and its affiliates ("Henkel") does not assume responsibility for any results obtained by persons over whose methods Henkel has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any Henkel's products. In light of the foregoing, Henkel specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel's products. Henkel further disclaims any liability for consequential or incidental damages of any kind, including lost profits.

**Others:**

**The full text of all abbreviations indicated by codes in this safety data sheet section 3 are as follows:**

H226 Flammable liquid and vapor.  
H227 Combustible liquid.  
H242 Heating may cause a fire.  
H301 Toxic if swallowed.  
H302 Harmful if swallowed.  
H311 Toxic in contact with skin.  
H312 Harmful in contact with skin.  
H313 May be harmful in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H331 Toxic if inhaled.  
H332 Harmful if inhaled.  
H335 May cause respiratory irritation.  
H351 Suspected of causing cancer.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H400 Very toxic to aquatic life.  
H401 Toxic to aquatic life.  
H402 Harmful to aquatic life.  
H411 Toxic to aquatic life with long lasting effects.