Safety Data Sheet

LOCTITE UK U-09FL known as Hysol U-09FL

SDS No. : 157247
V001.4
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Section 1. Identification of the substance/preparation and of the company/undertaking

Product name: LOCTITE UK U-09FL known as Hysol U-09FL

Intended use: Part A for 2-K-Polyurethane adhesive and sealant

Supplier:
Henkel Australia Pty Ltd
135-141 Canterbury Road
Kilsyth, Victoria, 3137
Australia

Phone: +61 (3) 9724 6444

Emergency information: 24 HOUR EMERGENCY CONTACT NUMBER: 1800 032 379

Section 2. Hazards identification

Classification of the substance or mixture
Hazardous according to the criteria of Safe Work Australia.

GHS Classification:

Hazard Class	Hazard Category	Route of Exposure
Acute toxicity	Category 4	Inhalation
Skin irritation	Category 2	
Serious eye irritation	Category 2A	
Respiratory sensitizer	Category 1	
Skin sensitizer	Category 1	

Hazard pictogram:

Signal word: Danger

Hazard statement(s):
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary Statement(s):

Prevention:
P261 Avoid breathing mist/vapours.
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.
P280 Wear protective gloves, eye protection, and face protection.
P284 [In case of inadequate ventilation] wear respiratory protection.

Response:
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340+P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
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.
P337+P313 If eye irritation persists: Get medical advice/attention.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
P362+P364 Take off contaminated clothing and wash it before reuse.

Disposal:
P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations.

Dangerous Goods information:
Not classified as Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code).

Section 3. Composition / information on ingredients

General chemical description: Mixture
Type of preparation: 2-component-polyurethane adhesive

Identity of ingredients:

Chemical ingredients	CAS-No.	Proportion
Dicyclohexylmethane diisocyanate	5124-30-1	10- < 20 %
non hazardous ingredients~		60- <= 100 %

Section 4. First aid measures

Ingestion: Rinse mouth, do not induce vomiting, consult a doctor.

Skin: Rinse with running water and soap. Apply replenishing cream. Change all contaminated clothing. If necessary, see a dermatologist.

Eyes: Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

Inhalation: Move to fresh air, consult doctor if complaint persists.
Delayed effects possible after inhalation.

First Aid facilities: Eye wash and safety shower
Normal washroom facilities

Medical attention and special treatment: Treat symptomatically and supportively.

Section 5. Fire fighting measures

Suitable extinguishing media: All common extinguishing agents are suitable.

Improper extinguishing media: High pressure waterjet

Decomposition products in case of fire: Upon decomposition, this product may yield gaseous nitrogen oxides, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
Hydrogen cyanide.

Particular danger in case of fire: Formation of toxic gases is possible during heating or in fires.
The product may undergo spontaneous polymerization at high temperatures.
Polymerization is exothermic and may cause damage to the container and/or release of thermal decomposition products.

Special protective equipment for fire-fighters: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.
Wear protective equipment.
Caution should be exercised when using water or foam as frothing may occur.
In case of fire, keep containers cool with water spray.

Section 6. Accidental release measures

Personal precautions: Keep unprotected persons away.
Wear protective equipment.
Ensure adequate ventilation.
Immediately remove soiled or soaked clothing.
See advice in section 8

Environmental precautions: Do not empty into drains / surface water / ground water.

Clean-up methods: Remove mechanically.
For minor spills, absorb isocyanates with sawdust or other absorbent, shovel into suitable unsealed containers, transport to well ventilated area (outside) and treat with neutralizing solution: mixture of 80% water and 20% non-ionic surfactant Tergitol TMN-10; or 90% water, 3-8% concentrated ammonia and 2% detergent.
Large quantities may be pumped into closed, but not sealed containers for disposal.
Dispose of contaminated material as waste according to Section 13.

Section 7. Handling and storage

Precautions for safe handling: Use only in well-ventilated areas.
Extract when the product is heated.
When using do not eat, drink or smoke.
See advice in section 8

Conditions for safe storage: Store in sealed original container.
Protect against contamination.
Store in a dry place.
Keep container tightly sealed and store in a frost free place.
Ensure that storage and workrooms are adequately ventilated.
Keep away from heat and direct sunlight.

Section 8. Exposure controls / personal protection

National exposure standards:

Ingredient [Regulated substance]	form of exposure	TWA (ppm)	TWA (mg/m3)	Peak Limit. (ppm)	Peak Limit. (mg/m3)	STEL (ppm)	STEL (mg/m3)
METHYLENE BIS(4-CYCLO-HEXYLISOCYANATE) 5124-30-1							0.07
METHYLENE BIS(4-CYCLO-HEXYLISOCYANATE) 5124-30-1			0.02				

Engineering controls: Use only in well ventilated areas.
Ensure good ventilation/suction at the workplace.

Eye protection: Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.

Skin protection: Protective clothing that covers arms and legs.
Please note that in practice the working life of chemical resistant gloves may be considerably reduced as a result of many influencing factors (e.g. temperature). Suitable risk assessment should be carried out by the end user. If signs of wear and tear are noticed then the gloves should be replaced.
Butyl rubber gloves.

Viton gloves.

Respiratory protection: If inhalation risk exists, wear a respirator or air supplied mask complying with the requirements of AS/NZS 1715 and AS/NZS 1716.

Section 9. Physical and chemical properties

Appearance: Clear
Liquid
Odor: odourless
pH: Not available.
Specific gravity: 1.09
Boiling point: > 93 °C (> 199.4 °F)
Flash point: > 93.3 °C (> 199.94 °F)
(ASTM D3278)
Vapor density: Heavier than air
Density: 1.09 g/cm3
Solubility in water: Reacts slowly with water to liberate carbon dioxide gas. (20 °C)

VOC content (2004/42/EC) 0.5 % (VOCV 814.018 VOC regulation CH)

Section 10. Stability and reactivity

Stability: Stable under normal conditions of temperature and pressure.

Conditions to avoid: Exposure to air or moisture over prolonged periods.
Avoid contact with water.
Danger of decomposition if exposed to heat.
Fire or intense heat may cause violent rupture of packages.

Incompatible materials:	Reaction with water, formation of CO2 Reaction with strong oxidants. Reacts with alcohols and amines. Reaction with amines, alkalis, metals. Will cause some corrosion to copper alloys and aluminum. Contact with moisture, other materials which can react with isocyanates, or temperatures above 204.4°C , may cause polymerization. Polymerization is a highly exothermic reaction and may generate sufficient heat to cause thermal decomposition and/or rupture containers.
Hazardous decomposition products:	In case of fire toxic gases can be released. Hydrogen cyanide. nitrogen oxides Oxides of carbon. May produce fumes when heated to decomposition. Fumes may contain carbon monoxide and other toxic fumes.
Hazardous polymerization:	Contact with moisture, other materials which can react with isocyanates, or temperatures above 204.4°C (400°F), may cause polymerization.

Section 11. Toxicological information

Health Effects:

Ingestion: Irritation and corrosive action can occur in the mouth, stomach tissue and digestive tract if swallowed.
Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

Skin: This product is irritating to the skin.
Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering.
Dicyclohexylmethane-4,4'-diisocyanate is also a potent sensitizer.
Experience indicates that direct contact is the route of exposure most likely to cause sensitization.
Once sensitized, an individual may react even to airborne levels below the TLV with the following symptoms: itching and tingling of the earlobes and neck, rash, hives, swelling of the arms and legs or other symptoms common to allergic dermatitis.
Chronic:
Prolonged contact can cause reddening, swelling, rash, scaling, blistering and in some cases, skin sensitization.
Individuals who have skin sensitization can develop these symptoms from contact with liquid or vapor.
Animal tests have indicated that respiratory sensitization can result from skin contact with dicyclohexylmethane-4,4'-diisocyanate.
May cause skin sensitization.

Eyes: Causes serious eye irritation.
Liquid, aerosols or vapor are irritating and can cause tearing, reddening and swelling.

Inhalation: Harmful by inhalation.
Inhalation of dicyclohexylmethane-4,4'-diisocyanate at concentrations above the TLV can irritate the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction).
Persons with preexisting, nonspecific bronchial hyper-reactivity can respond to concentrations below the TLV with similar symptoms as well as lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs).
These effects are usually reversible.
Chemical or hypersensitive pneumonitis with flu-like symptoms (e.g. fever, chills) have also been reported.
Chronic:
Sensitization can either be temporary or permanent.
Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air, or other irritants.
Over exposure to isocyanates has also been reported to cause lung damage (including decrease in lung function) which may be permanent.
As a result of previous repeated overexposures or a single large dose, certain individuals will develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. Chronic overexposure to isocyanates has been reported to cause lung damage.
These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed (up to several hours after exposure).
This increased lung sensitivity can persist for weeks and in severe cases for several years.

Acute toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Dicyclohexylmethane diisocyanate 5124-30-1	LD50 LC50 LD50	18,200 mg/kg 0.434 mg/l > 7,000 mg/kg	oral inhalation dermal	 4 h 	rat rat rat	FDA Guideline OECD Guideline 403 (Acute Inhalation Toxicity) OECD Guideline 402 (Acute Dermal Toxicity)

Section 12. Ecological information

General ecological information: Do not empty into drains / surface water / ground water., Fish toxicity: Brachydanio 96 hours - LC0= 0.69 mg/L; LC50- 1.20 mg/L; LC100= 2.76 mg/L. (Values for isocyanate).

Toxicity:

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Dicyclohexylmethane diisocyanate 5124-30-1	LC50	Toxicity > Water solubility	Fish	96 h	Brachydanio rerio (new name: Danio rerio)	EU Method C.1 (Acute Toxicity for Fish)
Dicyclohexylmethane diisocyanate 5124-30-1	EC50	Toxicity > Water solubility	Daphnia	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
Dicyclohexylmethane diisocyanate 5124-30-1	EC50	Toxicity > Water solubility	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	EU Method C.3 (Algal Inhibition test)
Dicyclohexylmethane diisocyanate 5124-30-1	NOEC	Toxicity > Water solubility	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	EU Method C.3 (Algal Inhibition test)
Dicyclohexylmethane diisocyanate 5124-30-1	EC 50	Toxicity > Water solubility	Bacteria	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

Persistence and degradability:

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Dicyclohexylmethane diisocyanate 5124-30-1	not readily biodegradable.	aerobic	0 %	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

Bioaccumulative potential / Mobility in soil:

Hazardous components CAS-No.	LogPow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
Dicyclohexylmethane diisocyanate 5124-30-1		10,186		calculation		QSAR (Quantitative Structure Activity Relationship)
Dicyclohexylmethane diisocyanate 5124-30-1	6.11					QSAR (Quantitative Structure Activity Relationship)

Section 13. Disposal considerations

Waste disposal of product: In consultation with the responsible local authority, must be subjected to special treatment. Special waste incineration with the approval of the responsible local authority.

Disposal for uncleaned package: Use packages for recycling only when totally empty.
Packaging that cannot be cleaned are to be disposed of in the same manner as the product.

Section 14. Transport information

Road and Rail Transport:

Dangerous Goods information: Not classified as Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code).

Marine transport IMDG:
Not dangerous goods

Air transport IATA:
Not dangerous goods

`Section 15. Regulatory information

SUSMP Poisons Schedule 6

Section 16. Other information

Abbreviations/acronyms:
STEL - Short term exposure limit
TWA - Time weighted average
ADGC - Australian Dangerous Goods Code
IMDG: International Maritime Dangerous Goods code
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
AIIC - Australian Inventory of Industrial Chemicals (AIIC)
AICIS - Australian Industrial Chemicals Introduction Scheme

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