

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/01/2022

Version 1.0

Last revision 06/01/2022

1 Identification

- **Product name:** LOCTITE® 454™ Gel Adhesive
- **Part number:** 71-40045G
- **Application of the substance / the mixture** Adhesives
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Allied High Tech Products Inc.
2376 East Pacifica Place
USA-RANCHO DOMINGUEZ, CA 90220
USA
info@alliedhightech.com
- **Information department:** Product safety department
- **Emergency telephone number:**
During normal opening times: +1 (310) 635-2466
Chemtrec: +1 (202) 483-7616

*** 2 Hazard(s) identification**

- **Classification of the substance or mixture**



Skin Irritation 2	H315 Causes skin irritation.
Eye Irritation 2A	H319 Causes serious eye irritation.
Specific Target Organ Toxicity - Single Exposure 3	H335 May cause respiratory irritation.
Flammable Liquids 4	H227 Combustible liquid.
Aquatic Acute 3	H402 Harmful to aquatic life.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



- **Signal word** Warning
- **Hazard-determining components of labeling:**
ethyl 2-cyanoacrylate
- **Hazard statements**
Combustible liquid.
Causes skin irritation.

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Causes serious eye irritation.

May cause respiratory irritation.

Harmful to aquatic life.

Precautionary statements

Keep away from flames and hot surfaces. – No smoking.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin: Wash with plenty of water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call a poison center/doctor if you feel unwell.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use CO₂, powder or water spray to extinguish.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

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

* 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Hazardous components and components with occupational exposure limits:**

7085-85-0	ethyl 2-cyanoacrylate ⚠ Skin Irritation 2, H315; Eye Irritation 2A, H319; Specific Target Organ Toxicity - Single Exposure 3, H335	80-90%
9011-14-7	Methyl methacrylate polymer Combustible Dust	5-10%
119-47-1	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol ⚠ Eye Irritation 2A, H319	≤1%
80-62-6	methyl methacrylate ⚠ Flammable Liquids 2, H225; ⚠ Acute Toxicity - Inhalation 4, H332; Skin Irritation 2, H315; Sensitization - Skin 1, H317; Specific Target Organ Toxicity - Single Exposure 3, H335	<0.1%
123-31-9	1,4-dihydroxybenzene ⚠ Germ Cell Mutagenicity 2, H341; Carcinogenicity 2, H351; ⚠ Eye Damage 1, H318; ⚠ Aquatic Acute 1, H400; ⚠ Acute Toxicity - Oral 4, H302; Sensitization - Skin 1, H317	0.025-<0.1%
7446-09-5	sulphur dioxide ⚠ Gases under Pressure - Compressed gas, H280; ⚠ Acute Toxicity - Inhalation 3, H331; ⚠ Skin Corrosion 1B, H314	<1%

- **Non-hazardous components:**

67762-90-7	Treated fumed silica	5-10%
773-82-0	pentafluorobenzonitrile ⚠ Flammable Liquids 3, H226	≤1%
14187-32-7	dibenzo[a,j]-1,4,7,10,13,16-hexaoxacyclooctadeca-2,11-diene	≤1%
75-75-2	methanesulphonic acid ⚠ Skin Corrosion 1B, H314	<1%
94-36-0	dibenzoyl peroxide ⚠ Organic Peroxides - Type B, H241; ⚠ Eye Irritation 2A, H319; Sensitization - Skin 1, H317	<0.1%

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2409-55-4	2-tert-butyl-p-cresol ⚠ Skin Corrosion 1B, H314; ⚠ Eye Irritation 2A, H319	<1%
2426-02-0	3,4,5,6-tetrahydrophthalic anhydride ⚠ Sensitization - Respiratory 1, H334; ⚠ Eye Damage 1, H318; ⚠ Sensitization - Skin 1, H317; Aquatic Chronic 3, H412	<0.1%
7429-90-5	aluminium powder (stabilised) ⚠ Flammable Solids 1, H228; Substances and mixtures which, in contact with water, emit flammable gases 2, H261	≤1%

· **Additional information:** The specific chemical identity and/or exact percentage of the composition has been withheld as a trade secret.

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
If skin is bonded, immediately wash with water and soap and rinse thoroughly.
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
If eyelids are bonded, immediately wash with warm water. Do not force eye open. Eye proteins will help to debond the adhesive. Keep eye covered until the debonding is complete, usually within 1-3 days.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
Dizziness
Nausea
Dermatitis
Eye irritation
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear fully protective suit.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources
- **Environmental precautions:**
Prevent seepage into sewage system, workpits and cellars.
Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Keep away from heat and direct sunlight.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store at temperatures not exceeding 2°C.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store receptacle in a well ventilated area.
- **Specific end use(s)** No further relevant information available.

* 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

7085-85-0 ethyl 2-cyanoacrylate	
TLV	Short-term value: 5.1 mg/m ³ , 1 ppm Long-term value: 1 mg/m ³ , 0.2 ppm DSEN, RSEN
9011-14-7 Methyl methacrylate polymer	
PEL	Long-term value: 410 mg/m ³
TLV	Long-term value: 205 mg/m ³
80-62-6 methyl methacrylate	
PEL	Long-term value: 410 mg/m ³ , 100 ppm
REL	Long-term value: 410 mg/m ³ , 100 ppm
TLV	Short-term value: 410 mg/m ³ , 100 ppm Long-term value: 205 mg/m ³ , 50 ppm DSEN, A4
123-31-9 1,4-dihydroxybenzene	
PEL	Long-term value: 2 mg/m ³
REL	Ceiling limit value: 2* mg/m ³ *15-min
TLV	Long-term value: 1 mg/m ³ DSEN, A3
7446-09-5 sulphur dioxide	
PEL	Long-term value: 13 mg/m ³ , 5 ppm
REL	Short-term value: 13 mg/m ³ , 5 ppm Long-term value: 5 mg/m ³ , 2 ppm
TLV	Short-term value: 0.65 mg/m ³ , 0.25 ppm A4

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- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Breathing equipment:** Use suitable respiratory protective device when high concentrations are present.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
Nitrile rubber, NBR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Eye protection:**



Tightly sealed goggles

* 9 Physical and chemical properties

· Information on basic physical and chemical properties	
· General Information	
· Appearance:	
· Form:	Pasty
· Color:	Clear
· Odor:	Characteristic
· Odor threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	>149 °C (>300.2 °F)
· Flash point:	80-93 °C (176-199.4 °F)
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	485 °C (905 °F)
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Not determined.
· Explosion limits:	
· Lower:	Not determined.
· Upper:	Not determined.
· Vapor pressure at 20 °C (68 °F):	0.3 hPa (0.2 mm Hg)
· Density:	Not determined.

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· Relative density	Not determined.
· Vapor density	3
· Specific gravity:	1.1
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
VOC content:	0.00 %
Solids content:	10.1 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions**
 - Reacts with water.
 - Reacts with strong alkali.
 - Reacts with amines.
 - Reacts with alcohols.
 - Danger of polymerization.
- **Conditions to avoid**
 - Water
 - Alcohol
 - Do not mix with alkalis.
- **Incompatible materials:** Amines
- **Hazardous decomposition products:** No dangerous decomposition products known.

* 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· LD/LC50 values that are relevant for classification:		
80-62-6 methyl methacrylate		
Oral	LD50	7,872 mg/kg (rat)
Dermal	LD50	5,000 mg/kg (rabbit)
Inhalative	LC50/4 h	18 mg/l (rat)
123-31-9 1,4-dihydroxybenzene		
Oral	LD50	320 mg/kg (rat)
7446-09-5 sulphur dioxide		
Inhalative	LC50/4 h	700 mg/l (ATE)

- **Primary chemical irritant effect:**
 - **on the skin:** Irritant to skin and mucous membranes.
 - **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.

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· **Additional toxicological information:**· **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)		
9011-14-7	Methyl methacrylate polymer	3
80-62-6	methyl methacrylate	3
94-36-0	dibenzoyl peroxide	3
123-31-9	1,4-dihydroxybenzene	3
7446-09-5	sulphur dioxide	3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**· **Aquatic toxicity:****80-62-6 methyl methacrylate**

EC50 (96 h)	170 mg/l (pseudokirchneriella subcapitata)
EC50 (48 h)	69 mg/l (daphnia)
LC50 (96 h)	79 mg/l (oncorhynchus mykiss)

· **Persistence and degradability** No further relevant information available.· **Behavior in environmental systems:**· **Bioaccumulative potential** No further relevant information available.· **Mobility in soil** No further relevant information available.· **Additional ecological information:**· **General notes:**

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**· **Recommendation:** Contact waste processors for recycling information.· **Uncleaned packagings:**· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**· **DOT, ADN, IMDG, IATA**

not regulated

· **UN proper shipping name**· **DOT, ADN, IMDG, IATA**

not regulated

· **Transport hazard class(es)**· **DOT, ADN, IMDG, IATA**· **Class**

not regulated

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· Packing group · DOT, IMDG, IATA	not regulated
· Environmental hazards:	Not applicable.
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	not regulated

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **Sara**

· Section 355 (extremely hazardous substances):	
123-31-9	1,4-dihydroxybenzene
7446-09-5	sulphur dioxide

· Section 313 (Specific toxic chemical listings):	
80-62-6	methyl methacrylate
94-36-0	dibenzoyl peroxide
123-31-9	1,4-dihydroxybenzene
7429-90-5	aluminium powder (stabilised)

· TSCA (Toxic Substances Control Act):	
All components have the value ACTIVE.	

· Hazardous Air Pollutants	
80-62-6	methyl methacrylate
123-31-9	1,4-dihydroxybenzene

· Proposition 65

· Chemicals known to cause cancer:	
None of the ingredients is listed.	

· Chemicals known to cause reproductive toxicity for females:	
None of the ingredients is listed.	

· Chemicals known to cause reproductive toxicity for males:	
None of the ingredients is listed.	

· Chemicals known to cause developmental toxicity:	
7446-09-5	sulphur dioxide

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Technical Services
- **Contact:** Pablo Mendoza
- **Last revision / supersedes version:** 06/01/2022 / -

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Gases under Pressure - Compressed gas: Gases under pressure – Compressed gas

Flammable Liquids 2: Flammable liquids – Category 2

Flammable Liquids 4: Flammable liquids – Category 4

Acute Toxicity - Inhalation 3: Acute toxicity – Category 3

Acute Toxicity - Inhalation 4: Acute toxicity – Category 4

Skin Corrosion 1B: Skin corrosion/irritation – Category 1B

Skin Irritation 2: Skin corrosion/irritation – Category 2

Eye Damage 1: Serious eye damage/eye irritation – Category 1

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

Sensitization - Skin 1: Skin sensitisation – Category 1

Germ Cell Mutagenicity 2: Germ cell mutagenicity – Category 2

Carcinogenicity 2: Carcinogenicity – Category 2

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard – Category 3

*** Data compared to the previous version altered.**