



Revision Number: 004.2

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Impruv® Optically Clear UV Adhesive 349
Product type: Ultraviolet adhesive
Company address: Henkel Corporation
 One Henkel Way
 Rocky Hill, Connecticut 06067

IDH number: 88489
Item number: 34931
Region: United States
Contact information:
 Telephone: 860.571.5100
 Emergency telephone: 860.571.5100
 Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state:	Liquid	HMIS:	
Color:	Clear	HEALTH:	*2
Odor:	Sharp, Irritating	FLAMMABILITY:	1
		PHYSICAL HAZARD:	1
		Personal Protection:	See MSDS Section 8

WARNING: CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION.
 MAY CAUSE ALLERGIC SKIN REACTION.
 MAY BE HARMFUL IF SWALLOWED.

Relevant routes of exposure: Skin, Inhalation, Eyes, Ingestion

Potential Health Effects

Inhalation: Irritates the nose, throat and respiratory system.
Skin contact: Causes skin irritation. May cause allergic skin reaction.
Eye contact: Vapors may irritate eyes. Contact with eyes will cause irritation.
Ingestion: May be harmful if swallowed. May cause gastrointestinal tract irritation if swallowed.

Existing conditions aggravated by exposure: Eye, skin, and respiratory disorders. Acrylic acid: Respiratory disorders. Lung disease.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
Polyurethane Methacrylate Resin	Proprietary	30 - 60
High boiling methacrylate	7534-94-3	10 - 30
Hydroxyalkyl methacrylate	27813-02-1	10 - 30
Lauryl methacrylate	142-90-5	5 - 10
Acrylic acid	79-10-7	5 - 10
Photoinitiator	947-19-3	1 - 5
Gamma-glycidoxypopyl trimethoxysilane	2530-83-8	1 - 5
Tetradecyl methacrylate	2549-53-3	1 - 5
Hexadecyl methacrylate	2495-27-4	1 - 5
Ethylene glycol	107-21-1	0.1 - 1

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Skin contact:	Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. If symptoms develop and persist, get medical attention. Wash clothing before reuse.
Eye contact:	Flush with copious amounts of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. Get medical attention.
Ingestion:	Do not induce vomiting. Never give anything by mouth to an unconscious person. Keep individual calm. Get medical attention.

5. FIRE FIGHTING MEASURES

Flash point:	> 93.3 °C (> 199.94 °F) Tagliabue closed cup
Autoignition temperature:	Not available
Flammable/Explosive limits - lower:	Not available
Flammable/Explosive limits - upper:	Not available
Extinguishing media:	Foam, dry chemical or carbon dioxide.
Special firefighting procedures:	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.
Unusual fire or explosion hazards:	Not available
Hazardous combustion products:	Oxides of carbon. Oxides of nitrogen. Irritating organic vapours.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions:	Do not allow product to enter sewer or waterways.
Clean-up methods:	Ensure adequate ventilation. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Store in a partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Handling:	Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Do not taste or swallow. For operations where eye or face contact could occur, provide safety shower and eyewash fountain.
Storage:	For safe storage, store at or below 38 °C (100.4 °F) Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Polyurethane Methacrylate Resin	None	None	None	None
High boiling methacrylate	None	None	None	None
Hydroxyalkyl methacrylate	None	None	None	1 ppm TWA 3 ppm STEL
Lauryl methacrylate	None	None	None	50 ppm
Acrylic acid	2 ppm TWA (SKIN)	None	None	1 ppm TWA 3 ppm STEL (SKIN)
Photoinitiator	None	None	None	None
Gamma-glycidoxypopyl trimethoxysilane	None	None	None	None
Tetradecyl methacrylate	None	None	None	50 ppm TWA 75 ppm STEL
Hexadecyl methacrylate	None	None	None	None
Ethylene glycol	100 mg/m3 Ceiling1 Aerosol.	None	None	None

Engineering controls:	Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.
Respiratory protection:	Use NIOSH approved respirator if there is potential to exceed exposure limit(s).
Eye/face protection:	Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists.
Skin protection:	Use impermeable gloves and protective clothing as necessary to prevent skin contact. Neoprene gloves. Butyl rubber gloves. Natural rubber gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Clear
Odor:	Sharp, Irritating
Odor threshold:	Not available
pH:	Not applicable
Vapor pressure:	< 10 mm hg (27 °C (80.6 °F))
Boiling point/range:	> 149 °C (> 300.2 °F)
Melting point/ range:	Not available
Specific gravity:	1.02
Vapor density:	Not available
Flash point:	> 93.3 °C (> 199.94 °F) Tagliabue closed cup
Flammable/Explosive limits - lower:	Not available
Flammable/Explosive limits - upper:	Not available
Autoignition temperature:	Not available
Evaporation rate:	Not available
Solubility in water:	Slight
Partition coefficient (n-octanol/water):	Not available
VOC content:	1.82 %; 17.37 g/l (ASTM D5403)

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	Oxides of carbon. Oxides of nitrogen. Irritating organic vapours.
Incompatible materials:	Strong oxidizing agents. Reducing agents. Acids. Bases. Heavy metals. Free radical initiators. Copper alloys.
Conditions to avoid:	Heat, flames, sparks and other sources of ignition. UV light. Store away from incompatible materials. See "Handling and Storage" (Section 7) and "Incompatibility" (Section 10).

11. TOXICOLOGICAL INFORMATION

Acute oral product toxicity: LD50 (rat) > 5,000 mg/kg (Estimated)

Acute dermal product toxicity: LD50 (rabbit) > 2,000 mg/kg (Estimated)

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Polyurethane Methacrylate Resin	No	No	No
High boiling methacrylate	No	No	No
Hydroxyalkyl methacrylate	No	No	No
Lauryl methacrylate	No	No	No
Acrylic acid	No	No	No
Photoinitiator	No	No	No
Gamma-glycidoxypopyl trimethoxysilane	No	No	No
Tetradecyl methacrylate	No	No	No
Hexadecyl methacrylate	No	No	No
Ethylene glycol	No	No	No

Hazardous components	Health Effects/Target Organs
Polyurethane Methacrylate Resin	Irritant, Allergen
High boiling methacrylate	Irritant, Allergen
Hydroxyalkyl methacrylate	Irritant, Allergen
Lauryl methacrylate	Irritant, Allergen
Acrylic acid	Allergen, Corrosive, Irritant, Kidney, Liver
Photoinitiator	No Records
Gamma-glycidoxypopyl trimethoxysilane	Irritant, Allergen
Tetradecyl methacrylate	Irritant, Allergen
Hexadecyl methacrylate	Irritant, Allergen
Ethylene glycol	Blood, Bone Marrow, Central nervous system, Developmental, Eyes, Irritant, Kidney, Liver, Metabolic

12. ECOLOGICAL INFORMATION

Ecological information: Not available

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of according to Federal, State and local governmental regulations.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Lauryl methacrylate)
Hazard class or division: 9
Identification number: UN 3082
Packing group: III

Water Transportation (IMO/IMDG)

Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Lauryl methacrylate)
Hazard class or division:	9
Identification number:	UN 3082
Packing group:	III
Marine pollutant:	Lauryl methacrylate

15. REGULATORY INFORMATION**United States Regulatory Information**

TSCA 8 (b) Inventory Status:	All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12(b) Export Notification:	None above reporting de minimus
CERCLA/SARA Section 302 EHS:	None above reporting de minimus
CERCLA/SARA Section 311/312:	Immediate Health, Delayed Health
CERCLA/SARA 313:	This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Acrylic acid (CAS# 79-10-7).
California Proposition 65:	This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDL Status:	All components are listed on or are exempt from listing on the Canadian Domestic Substances List.
WHMIS hazard class:	D.2.A, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: 14

Prepared by: Tricia Voghell, Regulatory Affairs Specialist

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