Safety Data Sheet

According to the Australian Work Health and Safety Regulations

High Temp V2 Resin

SECTION 1: Identification

Product identifier

Product name: High Temp V2 Resin
Product code: FLHTAM02

Recommended use of the product and restriction on use

Relevant identified uses: For use in Formlabs SLA Printers
Uses advised against: Not determined or not applicable.
Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:
United States
Formlabs, Inc
35 Medford St
Suite 201 Somerville, MA 02143
6178550762
sds@formlabs.com

Emergency telephone number:

1-800-424-9300 (24/7)

Medical emergency telephone number:

13 11 26 (24/7)

SECTION 2: Hazard(s) identification

GHS classification:

Skin irritation, category 2
Serious eye damage, category 1
Skin sensitization, category 1
Chronic aquatic hazard, category 2

Label elements

Hazard pictograms:

Signal word: Danger

Hazard statements:

H315 Causes skin irritation
H318 Causes serious eye damage
H317 May cause an allergic skin reaction
H411 Toxic to aquatic life with long lasting effects

Precautionary statements:

P264 Wash skin thoroughly after handling
P280 Wear face protection
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray
P272 Contaminated work clothing should not be allowed out of the workplace
P302+P352 IF ON SKIN: Wash with plenty of soap and water
P332+P313 If skin irritation occurs: Get medical advice/attention
P362 Take off contaminated clothing and wash before reuse
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 Immediately call a POISON CENTER or doctor/physician
P333+P313 If skin irritation or rash occurs: Get medical advice/attention
P363 Wash contaminated clothing before reuse
P501 Dispose of contents/container in accordance with local/regional/national regulations

Hazards not otherwise classified:

None

SECTION 3: Composition and information on ingredients

Identification	Name	Weight %
CAS number: 40220-08-4	(2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate	15-25
CAS number: Trade Secret	Acrylate Monomer(s)	40-60
CAS number: 72869-86-4	Urethane dimethacrylate	25-45

Additional Information: None

SECTION 4: First aid measures

Description of first aid measures

General notes:

Show this Safety Data Sheet to the doctor in attendance.

After inhalation:

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

After skin contact:

Wash off immediately with soap and plenty of water while removing contaminated clothing and shoes. Continue rinsing for at least 15 minutes. See a physician if irritation persists.

After eye contact:

Immediately flush eyes, under eyelids with water for 15 minutes. Remove contact lenses, if present to do so. Protect unexposed eye. Continue rinsing on the way to hospital.

After swallowing:

If swallowed, DO NOT induce vomiting unless told to do so by physicain or poison control center. Rinse mouth with water. Never give anything to drink to an unconscious person. Seek medical advice.

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Symptoms may include blistering, irritation, burns and pain. Effects are dependent on exposure (dose, concentration, contact time).

Delayed symptoms and effects:

Symptoms of poisoning may appear several hours later.

Immediate medical attention and special treatment

Specific treatment:

None known.

Notes for the doctor:

Treat symptomatically.

SECTION 5: Fire fighting measures

Extinguishing media

Suitable extinguishing media:

Alcohol- resistant foam, Dry chemical or Carbon dioxide

Unsuitable extinguishing media:

None known

Specific hazards during fire-fighting:

Evacuate all personnel to a predetermined safe location, no less than 2,500 feet in all directions. Can explode or detonate under fire conditions. Burning material may produce toxic vapors.

Special protective equipment for firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA)

Special precautions:

Avoid inhaling gases, fumes, mist, dust, vapor or aerosols. Avoid contact with eyes, skin, hair or clothing.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

Environmental precautions:

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and material for containment and cleaning up:

Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

Reference to other sections:

For disposal see section 13.

For personal protection see section 8.

SECTION 7: Handling and storage precautions

Precautions for safe handling:

Avoid contact with skin, eyes, and clothing. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Follow proper disposal methods. Refer to Section 13. Do not eat, drink, smoke, or use personal products when handling chemical substances.

Conditions for safe storage, including any incompatibilities:

Store in a cool, dry, well ventilated place. Store away from sources of heat or ignition. Store away from incompatible materials described in Section 10. Keep containers closed when not in use

SECTION 8: Exposure controls and personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

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

Biological limit values:

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

Information on monitoring procedures:

Not determined or not applicable.

Appropriate engineering controls:

Effective ventilation in all processing areas.

Personal protection equipment

Eye and face protection:

Safety goggles

Skin and body protection:

Impervious clothing and chemical resistant gloves

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory protection

General hygienic measures:

Handle in accordance with good industrial hygiene and safety measures. Wash hands and face after handling chemical products. Wash hands before eating, drinking and smoking. Wash hands at the end of the workday.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Light Yellow Liquid
Odor	Characteristic acrylate
Odor threshold	Not determined or not available.
pH	Not determined or not available.
Melting point/freezing point	Not determined or not available.
Initial boiling point/range	> 100°C
Flash point (closed cup)	> 93.5°C
Evaporation rate	Not determined or not available.
Flammability (solid, gas)	Not Flammable

Upper flammability/explosive limit	Not determined or not available.
Lower flammability/explosive limit	Not determined or not available.
Vapor pressure	Not determined or not available.
Vapor density	Not determined or not available.
Density	1.14 g/cm3
Relative density	Not determined or not available.
Solubilities	Not determined or not available.
Partition coefficient (n-octanol/water)	Not determined or not available.
Auto/Self-ignition temperature	Not determined or not available.
Decomposition temperature	Not determined or not available.
Dynamic viscosity	1015 cps @ 35°C
Kinematic viscosity	Not determined or not available.
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

Other information

SECTION 10: Stability and reactivity

Reactivity:
Does not react under normal conditions of use and storage.

Chemical stability:
Stable under normal storage and handling conditions.

Possibility of hazardous reactions:
Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid:
Incompatible materials.
Avoid storage >38°C (100°F) and exposure to light/direct sunlight and heat.

Incompatible materials:
Strong oxidizing agents.
Polymerization initiators, including peroxides, strong oxidizing agents, alcohols, copper, copper alloys, carbon steel, iron, rust, and strong bases.

Hazardous decomposition products:
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Hazard information

Acute toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Route	Result
(2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate	oral	LD50 Rat: >2000 mg/kg

Skin corrosion/irritation

Assessment:

Causes skin irritation.

Product data:

No data available.

Substance data:

Name	Result
Acrylate Monomer(s)	Causes skin irritation.

Serious eye damage/irritation

Assessment:

Causes serious eye damage.

Product data:

No data available.

Substance data:

Name	Result
(2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate	Causes serious eye damage.
Acrylate Monomer(s)	Causes serious eye irritation.

Respiratory or skin sensitization

Assessment:

May cause an allergic skin reaction.

Product data:

No data available.

Substance data:

Name	Result
Urethane dimethacrylate	May cause an allergic skin reaction.

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

International Agency for Research on Cancer (IARC): None of the ingredients are listed.

National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Reproductive toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:
No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:
No data available.

Substance data:

Name	Result
Acrylate Monomer(s)	May cause respiratory irritation.

Specific target organ toxicity (repeated exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:
No data available.

Substance data: No data available.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:
No data available.

Substance data: No data available.

Information on likely routes of exposure:
No data available.

Symptoms related to the physical, chemical and toxicological characteristics:
No data available.

Other information:
No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Chronic (long-term) toxicity

Assessment: Toxic to aquatic life with long lasting effects.
Product data: No data available.
Substance data: No data available.

Persistence and degradability

Product data: No data available.
Substance data:

Name	Result
(2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate	This substance is considered inherently biodegradable.
Acrylate Monomer(s)	This substance is inherently biodegradable.
Urethane dimethacrylate	This substance is not readily biodegradable.

Bioaccumulative potential

Product data: No data available.

Substance data:

Name	Result
Acrylate Monomer(s)	This substance has high potential to bioaccumulate.

Mobility in soil

Product data: No data available.

Substance data:

Name	Result
(2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate	This substance is not expected to be adsorbed by the soil.
Acrylate Monomer(s)	This substance has potential to be adsorbed by the soil.
Urethane dimethacrylate	This substance is expected to distribute between the water column and organic soil and sediment particles.

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

Contaminated packages:

Not determined or not applicable.

SECTION 14: Transport information

Australian Dangerous Goods (ADG)

UN number	UN 3082
UN proper shipping name	Environmentally hazardous liquid, N.O.S. Methacrylate Polymer

UN transport hazard class(es)	9 
Packing group	III
Environmental hazards	Marine Pollutant
Special precautions for user	None
Additional Information	This product is not regulated as a dangerous good when transported in sizes of <5L or <5 kg provided the packaging meets the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8

International Maritime Dangerous Goods (IMDG)

UN number	UN 3082
UN proper shipping name	Environmentally hazardous liquid, N.O.S. Methacrylate Polymer
UN transport hazard class(es)	9 
Packing group	III
Environmental hazards	Marine Pollutant
Special precautions for user	None
Additional Information	This product is not regulated as a dangerous good when transported in sizes of <5L or <5 kg provided the packaging meets the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	UN 3082
UN proper shipping name	Environmentally hazardous liquid, N.O.S. Methacrylate Polymer
UN transport hazard class(es)	9 
Packing group	III
Environmental hazards	Marine Pollutant
Special precautions for user	None
Additional Information	This product is not regulated as a dangerous good when transported in sizes of ≤5L or 5≤ kg provided the packaging meets the general provisions of 5.0.2.4.1, 5.0.2.6.1 and 5.0.2.8.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	
Bulk Name	None
Ship type	None
Pollution category	None

SECTION 15: Regulatory information

Australia regulations

Australian Inventory of Chemical Substances (AICS):

40220-08-4	(2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate	Listed
Trade Secret	Acrylate Monomer(s)	Listed
72869-86-4	Urethane dimethacrylate	Listed

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP):

40220-08-4	(2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate	Not Listed
Trade Secret	Acrylate Monomer(s)	Not Listed
72869-86-4	Urethane dimethacrylate	Not Listed

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This SDS was authored in accordance with the Australian Work Health and Safety Regulations and supplemented by the Australian Code of Practice on the Preparation of Safety Data Sheets for Hazardous Chemicals. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

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End of Safety Data Sheet