

According to Regulation (EC) No. 1272/2008 (CLP) and (EC) No. 1907/2006 (REACH)

Initial preparation date: 2020.06.03 Page 1 of 13

Elastic 50A Resin

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product Name: Elastic 50A Resin

Product code: FLELCL01

1.2 Relevant identified uses of the substance or mixture and uses advised against

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.

1.3 Details of the manufacturer/supplier of the safety data sheet

Manufacturer:Supplier:United StatesGermanyFormlabs, IncFormlabs GmbH35 Medford StNalepastr. 18Suite 201 Somerville, MA 0214312459 Berlin

+1 617 855 0762 +49 30 555 795 880

sds@formlabs.com

1.4 Emergency telephone number:

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

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No. 1272/2008 (CLP):

Skin irritation, category 2

Serious eye damage, category 1

Skin sensitization, category 1

Specific target organ toxicity - single exposure, category 3, respiratory tract irritation

Chronic aquatic hazard, category 1

Hazard-determining components of labeling:

Isobornyl acrylate Acrylate Monomer(s)

Additional Information: None

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Hazard pictograms:







Signal word: Danger Hazardstatements:

H315 Causes skin irritation

According to Regulation (EC) No. 1272/2008 (CLP) and (EC) No. 1907/2006 (REACH)

Initial preparation date: 2020.06.03 Page 2 of 13

Elastic 50A Resin

H318 Causes serious eye damage

H317 May cause an allergic skin reaction

H335 May cause respiratory irritation

H410 Very toxic to aquatic life with long lasting effects

Precautionary statements:

P264 Wash skin thoroughly after handling

P280 Wear protective gloves/protective clothing/eye protection/face protection

P261 Avoid breathing dust/fume/gas/mist/vapours/spray

P272 Contaminated work clothing should not be allowed out of the workplace

P271 Use only outdoors or in a well-ventilated area

P273 Avoid release to the environment

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

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

P363 Wash contaminated clothing before reuse

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing

P391 Collect spillage

P403+P233 Store in a well-ventilated place. Keep container tightly closed

P405 Store locked up

P501 Dispose of contents/container in accordance with local/regional/national regulations

2.3 Other hazards: None known

SECTION 3: Composition/information on ingredients

3.1 Substance: Not applicable.

3.2 Mixture:

Identification	REACH Registration No.	Name	Classification according to Regulation (EC) No. 1272/2008 (CLP)	Weight %
CAS number: 5888-33-5 EC number: 227-561-6	-	Isobornyl acrylate	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3 (RI); H335 Aquatic Chronic 2; H411	15-25
CAS number: Trade Secret EC number: Trade Secret	-	Acrylate Monomer(s)	Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Dam. 1; H318	25-45

Additional information: None

Full Text of H and EUH statements: See section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes:

Show this Safety Data Sheet to the doctor in attendance.

Following inhalation:

According to Regulation (EC) No. 1272/2008 (CLP) and (EC) No. 1907/2006 (REACH)

Initial preparation date: 2020.06.03 Page 3 of 13

Elastic 50A Resin

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.

Following skin contact:

Wash off immediately with soap and plenty of water while removing contaminated clothing and shoes. See a physician if irritation persists.

Following eye contact:

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

Following ingestion:

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

Self-Protection of the first aider:

Not determined or not available.

4.2 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.

4.3 Indication of any immediate medical attention and special treatment needed

Specific treatment:

None known.

Notes for the doctor:

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Alcohol- resistant foam, Dry chemical or Carbon dioxide

Unsuitable extinguishing media:

None known

5.2 Special hazards arising from the substance or mixture:

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.

5.3 Advice for firefighters

Personal protection equipment:

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

6.1 Personal precautions, protective equipment and emergency procedures:

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

6.2 Environmental precautions:

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

According to Regulation (EC) No. 1272/2008 (CLP) and (EC) No. 1907/2006 (REACH)

Initial preparation date: 2020.06.03 Page 4 of 13

Elastic 50A Resin

environment must be avoided.

6.3 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.

6.4 Reference to other sections:

For disposal see section 13.

For personal protection see section 8.

SECTION 7: Handling and storage

7.1 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.

7.2 Conditions for safe storage, including anyincompatibilities:

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

7.3 Specific end use(s):

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection







8.1 Control parameters

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).

Derived No Effect Level (DNEL):

Ingredient Name: Isobornyl acrylate

CAS #: 5888-33-5

	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
Workers - Systemic	Acute - Dermal	No hazard identified
Effects	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	1.39 mg/kg bw/day

According to Regulation (EC) No. 1272/2008 (CLP) and (EC) No. 1907/2006 (REACH)

Initial preparation date: 2020.06.03 Page 5 of 13

Elastic 50A Resin

	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
Workers - Local	Acute - Dermal	No hazard identified
Effects	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	No hazard identified
	Acute - Oral	No hazard identified
	Acute - Inhalation	No hazard identified
General Population -	Acute - Dermal	No hazard identified
Systemic Effects	Chronic - Oral	0.83 mg/kg bw/day
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	0.83 mg/kg bw/day
	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
General Population - Local Effect	Acute - Dermal	No hazard identified
	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	No hazard identified

Ingredient Name: Acrylate Monomer(s)

CAS #: Trade Secret

CAS #. ITaue Secre	L	
	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
Workers - Systemic	Acute - Dermal	No hazard identified
Effects	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	8.2 mg/kg bw/day
	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	3 mg/m³
Workers - Local	Acute - Dermal	Hazard identified but no DNEL available
Effects	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	3 mg/m³
	Chronic - Dermal	Hazard identified but no DNEL available
	Acute - Oral	No hazard identified
	Acute - Inhalation	No hazard identified
General Population -	Acute - Dermal	No hazard identified
Systemic Effects	Chronic - Oral	No hazard identified
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	No hazard identified

According to Regulation (EC) No. 1272/2008 (CLP) and (EC) No. 1907/2006 (REACH)

Initial preparation date: 2020.06.03 Page 6 of 13

Elastic 50A Resin

	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
General Population -	Acute - Dermal	No hazard identified
Local Effect	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	No hazard identified

Predicted No Effect Concentration (PNEC):

Ingredient Name: Isobornyl acrylate

CAS #: 5888-33-5

Environmental Protection Target	PNEC
Fresh water	0.001 mg/L
Freshwater sediments	0.145 mg/kg
Marine water	0 mg/L
Marine sediments	0.015 mg/kg
Food chain	Not determined or not available.
Microorganisms in sewage treatment	2 mg/L
Soil (agricultural)	0.029 mg/kg
Air	No hazard identified

Ingredient Name: Acrylate Monomer(s)

CAS #: Trade Secret

Environmental Protection Target	PNEC
Fresh water	0.014 mg/L
Freshwater sediments	0.086 mg/kg
Marine water	0.001 mg/L
Marine sediments	0.009 mg/kg
Food chain	Not determined or not available.
Microorganisms in sewage treatment	10 mg/L
Soil (agricultural)	0.037 mg/kg
Air	No hazard identified

Information on monitoring procedures:

Not determined or not applicable.

8.2 Exposure controls

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.

According to Regulation (EC) No. 1272/2008 (CLP) and (EC) No. 1907/2006 (REACH)

Initial preparation date: 2020.06.03 Page 7 of 13

Elastic 50A Resin

Environmental exposure controls:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Product (substance / mixture) related measures to prevent exposure:	Not determined or not applicable.
Instruction measures to prevent exposure:	Not determined or not applicable.
Organizational measures to prevent exposure:	Not determined or not applicable.
Technical measures to prevent exposure:	Not determined or not applicable.

Risk management measures to control exposure:

Not determined or not applicable.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Transparent Violet Liquid
Characteristic acrylate
Not determined or not available.
Not determined or not available.
Not determined or not available.
> 100°C
> 93.5°C
Not determined or not available.
Not Flammable
Not determined or not available.
1.02 g/cm3
Not determined or not available.
2950 @ 35°C
Not determined or not available.
Not determined or not available.

9.2 Other information

SECTION 10: Stability and reactivity

10.1 Reactivity:

Does not react under normal conditions of use and storage.

10.2 Chemical stability:

According to Regulation (EC) No. 1272/2008 (CLP) and (EC) No. 1907/2006 (REACH)

Initial preparation date: 2020.06.03 Page 8 of 13

Elastic 50A Resin

Stable under normal storage and handling conditions.

10.3 Possibility of hazardous reactions:

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

10.4 Conditions to avoid:

Incompatible materials.

Avoid storage >38°C (100°F) and exposure to light/direct sunlight and heat.

10.5 Incompatible materials:

Strong oxidizing agents.

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

10.6 Hazardous decomposition products:

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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

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

Product data: No data available.

Substance data:

Name	Route	Result
Isobornyl acrylate	oral	LD50 Rat: 4890 mg/kg
	dermal	LD50 Rabbit : >5000 mg/kg
Acrylate Monomer(s)	oral	LD50 Rat : 830 mg/kg
	dermal	LD50 Rabbit: 520 mg/kg

Skin corrosion/irritation

Assessment:

Causes skin irritation.

Product data:

No data available.

Substance data:

Name	Result
Isobornyl acrylate	Causes skin irritation.
Acrylate Monomer(s)	Causes skin irritation.

Serious eye damage/irritation

Assessment:

Causes serious eye damage.

Product data:

No data available.

Substance data:

Name	Result
Isobornyl acrylate	Causes serious eye irritation.
Acrylate Monomer(s)	Causes serious eye damage.

Respiratory or skin sensitization

According to Regulation (EC) No. 1272/2008 (CLP) and (EC) No. 1907/2006 (REACH)

Initial preparation date: 2020.06.03 Page 9 of 13

Elastic 50A Resin

Assessment:

May cause an allergic skin reaction.

Product data:

No data available.

Substance data:

Name	Result
Isobornyl acrylate	May cause an allergic skin reaction.
Acrylate Monomer(s)	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:

May cause respiratory irritation.

Product data: No data available. Substance data:

Name	Result
Isobornyl acrylate	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.

According to Regulation (EC) No. 1272/2008 (CLP) and (EC) No. 1907/2006 (REACH)

Initial preparation date: 2020.06.03 Page 10 of 13

Elastic 50A Resin

Other information:

No data available.

SECTION 12: Ecological information

12.1 Toxicity

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:

Very toxic to aquatic life with long lasting effects.

Product data: No data available.

Substance data: No data available.

12.2 Persistence and degradability

Product data: No data available. **Substance data:** No data available.

12.3 Bioaccumulative potential

Product data: No data available.

Substance data: No data available.

12.4 Mobility in soil

Product data: No data available. Substance data: No data available.

12.5 Results of PBT and vPvB assessment

PBT assessment: This product does not contain any substances that are assessed to be a PBT. **vPvB assessment:** This product does not contain any substances that are assessed to be a vPvB.

12.6 Other adverse effects: No data available.

12.7 Hazard to the ozone layer

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

Product data: No data available.

Substance data: No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

13.1.1 Product / Packaging disposal: Not determined or not available.

Waste codes / waste designations according to LoW: Not determined or not available.

- **13.1.2** Waste treatment-relevant information: Not determined or not available.
- 13.1.3 Sewage disposal-relevant information: Not determined or not available.
- **13.1.4 Other disposal recommendations:** It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

SECTION 14: Transport information

International Carriage of Dangerous Goods by Road/Rail (ADR/RID)

UN number UN 3082

According to Regulation (EC) No. 1272/2008 (CLP) and (EC) No. 1907/2006 (REACH)

Initial preparation date: 2020.06.03 Page 11 of 13

Elastic 50A Resin

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 Carriage of Dangerous Goods by Inland Waterways (ADN)

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

According to Regulation (EC) No. 1272/2008 (CLP) and (EC) No. 1907/2006 (REACH)

Initial preparation date: 2020.06.03 Page 12 of 13

Elastic 50A Resin

Environmental hazards	Marine Pollutant
Special precautions for user	None
	This product is not regulated as a dangerous good when transported in sizes of $\leq 5L$ or $5\leq kg$ provided the packaging meet 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 MARPOL and the IBC Code	
Bulk Name	None
Ship type	None
Pollution category	None

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.

European regulations

Inventory listing (EINECS):

5888-33-5	Isobornyl acrylate	Listed
Trade Secret	Acrylate Monomer(s)	Listed

REACH SVHC candidate list:

5888-33-5	Isobornyl acrylate	Not Listed
Trade Secret	Acrylate Monomer(s)	Not Listed

REACH SVHC Authorizations:

5888-33-5	Isobornyl acrylate	Not Listed
Trade Secret	Acrylate Monomer(s)	Not Listed

REACH Restriction:

5888-33-5		Not Listed
Trade Secret	[/	Not Listed

Water hazard class (WGK) (Product):

Water hazard class (WGK) (Substance):

Ingredient Name	CAS	Class
Isobornyl acrylate	5888-33-5	Water hazard class 2: obviously hazardous to water
Acrylate Monomer(s)	Trade Secret	Water hazard class 1: slightly hazardous to water

Other regulations

Germany TA Luft:

Ingredient Name	CAS		Base Emission Rate	Max Concentration
Isobornyl acrylate	5888-33-5	Not Applicable		
Acrylate Monomer(s)	Trade Secret	Not Applicable		

15.2 Chemical Safety Assessment

According to Regulation (EC) No. 1272/2008 (CLP) and (EC) No. 1907/2006 (REACH)

Initial preparation date: 2020.06.03 Page 13 of 13

Elastic 50A Resin

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: Other information

Abbreviations and Acronyms: None

Classification procedure:

Classification according to Regulation (EC) No. 1272/2008 (CLP)	Method Used
Skin irritation, category 2	Calculation method
Serious eye damage, category 1	Calculation method
Skin sensitization, category 1	Calculation method
Specific target organ toxicity - single exposure, category 3, respiratory tract irritation	Calculation method
Chronic aquatic hazard, category 1	Bridging principle substantially similar mixtures

Summary of classification(s) in section 3:

Skin Irrit. 2	Skin irritation, category 2
Eye Irrit. 2	Eye Irritation, category 2
STOT SE 3 (RI)	Specific target organ toxicity - single exposure, category 3, respiratory tract irritation
Aquatic Chronic 2	Chronic aquatic hazard, category 2
Skin Sens. 1	Skin sensitization, category 1
Eye Dam. 1	Serious eye damage, category 1

Summary of hazard statements in section 3:

H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H411	Toxic to aquatic life with long lasting effects
H317	May cause an allergic skin reaction
H318	Causes serious eye damage

Disclaimer:

This product has been classified in accordance with EC No. 1272/2008 (CLP) and EC No. 1907/2006 (REACH). 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.

Initial preparation date: 2020.06.03

End of Safety Data Sheet