

Safety Data Sheet
 according to Regulation (EC) No 1907/2006 and 1272/2008,
 Hazard Communication Standard 29 CFR 1910 (USA),
 WHS Regulations Australia,
 JIS Z 7253 (2012) Japan

Figure 4 ELAST-BLK 10

Revision Date: May 23, 2018

1. IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Identification of the mixture: **Figure 4 ELAST-BLK 10**

1.2 Product Class: Mixture of acrylates, photoinitiators, and proprietary pigment package

1.3 Use of the preparation: For use with Figure 4 systems

1.4 Company/undertaking identification:

3D Systems, Inc.
 333 Three D Systems Circle
 Rock Hill, South Carolina U.S.A.
 Phone: 803.326.3900 or
 Toll-free Phone: 800.793.3669
 e-mail: moreinfo@3dsystems.com
 Chemical Emergency:
 800.424.9300 – Chemtrec

3D Systems Europe Ltd.
 Mark House, Mark Road
 Hemel Hempstead
 Herts HP2 7 United Kingdom
 Phone: +44 144-2282600
 e-mail: moreinfo@3dsystems.com
 Chemical Emergency:
 +1 703.527.3887 - Chemtrec

3D Systems / Australia
 5 Lynch Street
 Hawthorn, VIC 3122
 +1 03 9819-4422
 e-mail: moreinfo@3dsystems.com
 Chemical Emergency:
 +(61) 29037.2994 – Aus Chemtrec

2. HAZARDS IDENTIFICATION in accordance with (EC) No. 1272/2008

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:

(Corrosion)Damage/irritation - Eye	Category 2A
Aquatic - Acute	Category 1
Aquatic - Chronic	Category 1
Corrosion/irritation - Skin	Category 2
Sensitization – Skin	Category 1
STOT-respiratory irritation - Single exposure	Category 3

*For the full text of the H-Statements mentioned in this Section, see Section 16

GHS/CLP LABELLING

Hazard pictograms and signal word:



GHS07



GHS 09

Signal word: Warning

Hazard statements:

H319 Causes serious eye irritation
 H400 Very toxic to aquatic life
 H410 Very toxic to aquatic life with long lasting effects
 H315 Causes skin irritation
 H317 May cause an allergic skin reaction
 H335 May cause respiratory irritation

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Precautionary statements:

Prevention:

- P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
- 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.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:

- P302+P352 IF ON SKIN: Wash with plenty of water/...
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312 Call a POISON CENTRE/doctor/... if you feel unwell.
- P321 Specific treatment (see Section 4 – First Aid Measures)
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P362 Take off contaminated clothing.
- P363 Wash contaminated clothing before reuse.
- P391 Collect spillage.

Supplemental Health Information

Potential Health Effects:

Effects due to processing releases:

Irritating to eyes, respiratory system and skin. Prolonged or repeated exposure may cause: headache, drowsiness, nausea weakness (severity of effects depends on extent of exposure).

Other:

This product may release fume and/or vapor of variable composition depending on processing time and temperature. Possible cross sensitization with other acrylates and methacrylates or any other source of free radical such as high heat.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Approximate % By Weight	Hazardous Statements in accordance with EC 1272/2008
Proprietary 1	25-45	H315, H319
U22-047_1 Secret 1	25-45	H315, H319, H335
Proprietary 2	10-18	H315, H319, H317, H411
U22-009 Secret 1	4-7	H315,H319
128-37-0	0-1	H400,H410
5888-33-5	0-1	H315,H319,H317,H400,H410

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section

California: No chemicals listed as Prop 65

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4. FIRST AID MEASURES

4.1 Emergency Overview: This product is a liquid with a characteristic acrylate odor. This product may cause skin and eye irritation. The inhalation of high vapor concentration may cause a headache and nausea. There is no data available on the mixture itself. Procedure used to derive the classification according to Regulation (EC) No 1272/2008[CLP/GHS] See Sections 2 and 3 for details. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short term and long term exposure by oral, inhalation and dermal routes of exposure and eye contact. Acrylate components of the mixture have irritating properties. May be harmful or fatal if swallowed and enters airways.

4.2 In case of inhalation: In case of exposure to a high concentration of vapor or mist, remove person to fresh air. If breathing has stopped, administer artificial respiration and seek medical attention.

4.3 In case of skin contact: Remove contaminated clothing and rinse contact area thoroughly with soap and water. Particular attention should be paid to hair, nose, and ears, and other areas not easily cleaned. Wash clothing before reuse. If irritation develops, consult a physician.

4.4 In case of eye contact: Immediately flush with plenty of clean water (under eye lids) for at least 20 minutes. Hold eyelids apart to ensure flushing. Washing within one minute of contact is essential to achieve maximum effectiveness. Seek medical attention immediately. Do not apply oil or oily ointments unless ordered by a physician.

4.5 In case of Ingestion: Contact nearest Poison Control Center or local emergency telephone number for assistance and instructions. If ingested, dilute with water by giving glasses of water or milk to the victim. Do not give anything by mouth if the victim is rapidly losing consciousness, is unconscious, or convulsing. Do not induce vomiting. If vomiting occurs naturally, keep airways clear. Get medical attention. Provide an estimate of the time at which the material was ingested and the amount of the substance that was swallowed.

Note to Physician: Persons with pre-existing central nervous system (CNS) disease, neurological conditions, skin disorders, chronic respiratory diseases or impaired liver or kidney function should avoid exposure.

5. FIRE-FIGHTING MEASURES

Flash Point: > 93 °C / 200 °F

Method: Setaflash

VOC (g/l): Theoretically very close to zero at normal ambient conditions

Ignition Temperature: No data

Lower Explosion Limit: No data

Upper Explosion Limit: No data

5.1 Suitable extinguishing media: Use carbon dioxide or dry chemical for small fires; aqueous foam or water spray for large fires.

5.2 Extinguishing media which must not be used for safety reasons: High volume water jet.

5.3 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases: Emits irritating vapors. High temperatures, accidental impurities, or exposure to radiation or oxidizers may cause spontaneous polymerization generating heat/pressure and rupture/explosion of closed containers. Burning produces obnoxious and toxic fumes.

5.4 Special fire-fighting procedures: Firefighters should wear full protection clothing and self-contained breathing apparatus (SCBA). Thoroughly decontaminate firefighting equipment including all firefighting apparel after the incident.

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5.5 Exposure Hazard(s): When burned, the following hazardous products of combustion can occur:

Carbon oxides
Nitrogen Oxides (NO_x)
Hazardous organic compounds

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions: Keep unnecessary personnel away. Wear adequate protective equipment and clothing as outlined in Section 8. Consult expert immediately.

6.2 Environmental precautions: Stop the flow of material, if this is without risk. Prevent spread into drains, sewers, water supplies, or soil. Avoid release into the environment. In case of contamination of aquatic environment, inform local authorities. Dispose of in accordance with all applicable federal, state and local regulations.

6.3 Methods for cleaning up: In the event of a spill, immediately remove all sources of ignition. Cover the liquid with inert absorbent. Using appropriate personal protective equipment and non-sparking tools, contain spilled material.

6.4 Waste Disposal Method: Do not dispose of in sewers, lakes, rivers or streams. Scoop all contaminated material into compatible bottles or drums for proper disposal. Dispose of in accordance with all applicable federal, state and local regulations. National or regional provisions may also be in force.

7. HANDLING AND STORAGE

7.1 Handling Precautions, User Exposure: This product should be used in well-ventilated areas. Product may cause irritation. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Wash hands with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored or processed. Launder contaminated clothing before reuse. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse. Solvents should never be used to clean hands or skin because they increase the penetration of the material into skin. Do not enter storage areas and confined spaces unless adequately ventilated.

7.2 Storage: Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool, and well-ventilated area, away from incompatible materials and food and drink. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3 Special Requirements: Do not heat containers with steam or electrical equipment. Heating this product above 150 °C (300 °F) in the presence of air may cause slow oxidative decomposition; above 260 °C (500 °F) polymerization may occur. Fumes and vapors from this thermal decomposition may be dangerous (carbon monoxide, carbon dioxide, nitrous oxides). Do not breathe fumes.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure limit values:

CAS	List Name	List Details	Source
128-37-0	ACGIH - Threshold Limit Values - Carcinogens	A4 - Not Classifiable as a Human Carcinogen	LOLI DB
128-37-0	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)	2 mg/m3 TWA (inhalable fraction and vapor)	LOLI DB
128-37-0	ACGIH - Threshold Limit Values - TLV Basis - Critical Effects	upper respiratory tract irritation	LOLI DB
128-37-0	Argentina - Occupational Exposure Limits - Carcinogens	A4 - Not classifiable as a human carcinogen	LOLI DB
128-37-0	Argentina - Occupational Exposure Limits - TWAs (CMPs)	2 mg/m3 TWA [CMP] (inhalable fraction)	LOLI DB
128-37-0	Australia - Occupational Exposure Standards - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	Austria - Occupational Exposure Limits - TWAs - (MAK-TMWs)	10 mg/m3 TWA [TMW]	LOLI DB
128-37-0	Bahrain - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	Belgium - Occupational Exposure Limits - TWAs	2 mg/m3 TWA (aerosol and vapor)	LOLI DB
128-37-0	Bulgaria - Occupational Exposure Limits - STELs	50 mg/m3 STEL	LOLI DB
128-37-0	Bulgaria - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	Canada - Alberta - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	Canada - British Columbia - Occupational Exposure Limits - TWAs	2 mg/m3 TWA (aerosol)	LOLI DB
128-37-0	Canada - Manitoba - Occupational Exposure Limits - Carcinogens	A4 Not Classifiable as a Human Carcinogen	LOLI DB
128-37-0	Canada - Manitoba - Occupational Exposure Limits - TWAs	2 mg/m3 TWA (inhalable fraction and vapor)	LOLI DB
128-37-0	Canada - New Brunswick - Occupational Exposure Limits - Carcinogens	A4 - Not Classifiable as a Human Carcinogen	LOLI DB
128-37-0	Canada - New Brunswick - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	Canada - Newfoundland & Labrador - Occupational Exposure Limits - TWAs	2 mg/m3 TWA (inhalable fraction and vapor)	LOLI DB
128-37-0	Canada - Northwest Territories - Occupational Exposure Limits - STELs	4 mg/m3 STEL (inhalable fraction and vapour)	LOLI DB
128-37-0	Canada - Northwest Territories - Occupational Exposure Limits - TWAs	2 mg/m3 TWA (inhalable fraction and vapour)	LOLI DB
128-37-0	Canada - Nova Scotia - Occupational Exposure Limits - Carcinogens	A4 - Not Classifiable as a Human Carcinogen	LOLI DB
128-37-0	Canada - Nova Scotia - Occupational Exposure Limits - TWAs	2 mg/m3 TWA (inhalable fraction and vapor)	LOLI DB
128-37-0	Canada - Nunavut - Occupational Exposure Limits - STELs	4 mg/m3 STEL (inhalable fraction and vapour)	LOLI DB
128-37-0	Canada - Nunavut - Occupational Exposure Limits - TWAs	2 mg/m3 TWA (inhalable fraction and vapour)	LOLI DB
128-37-0	Canada - Ontario - Occupational Exposure Limits - TWAs	2 mg/m3 TWA (inhalable fraction and vapor)	LOLI DB
128-37-0	Canada - Prince Edward Island - Occupational Exposure Limits - TWAs	2 mg/m3 TWA (inhalable fraction and vapor)	LOLI DB
128-37-0	Canada - Quebec - Occupational Exposure Limits - STEVs	10 mg/m3 STEV	LOLI DB
128-37-0	Canada - Saskatchewan - Occupational Exposure Limits - STELs	4 mg/m3 STEL (inhalable fraction and vapour)	LOLI DB

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128-37-0	Canada - Saskatchewan - Occupational Exposure Limits - TWAs	2 mg/m3 TWA (inhalable fraction and vapour)	LOLI DB
128-37-0	Canada - Yukon - Occupational Exposure Limits - STELs	20 mg/m3 STEL	LOLI DB
128-37-0	Canada - Yukon - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	Colombia - Occupational Exposure Limits - TWAs	2 mg/m3 TWA (inhalable fraction and vapor)	LOLI DB
128-37-0	Croatia - Occupational Exposure Limits - TWAs (GVIs)	10 mg/m3 TWA [GVI]	LOLI DB
128-37-0	Denmark - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	Dominican Republic - Occupational Exposure Limits - TWAs	2 mg/m3 TWA (inhalable fraction and vapor)	LOLI DB
128-37-0	Finland - Occupational Exposure Limits - STELs	20 mg/m3 STEL	LOLI DB
128-37-0	Finland - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	France - Occupational Exposure Limits - TWAs (VME)	10 mg/m3 TWA [VME]	LOLI DB
128-37-0	GCC - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	Germany - DFG - Recommended Exposure Limits - Carcinogens	Category 4 (no significant contribution to human cancer)	LOLI DB
128-37-0	Germany - DFG - Recommended Exposure Limits - Ceilings (Peak Limitations)	40 mg/m3 Peak (can occur as vapor and aerosol at the same time)	LOLI DB
128-37-0	Germany - DFG - Recommended Exposure Limits - Pregnancy	no risk to embryo/fetus if exposure limits adhered to	LOLI DB
128-37-0	Germany - DFG - Recommended Exposure Limits - TWAs (MAKs)	10 mg/m3 TWA MAK (can occur as vapor and aerosol at the same time)	LOLI DB
128-37-0	Germany - TRGS 900 - Occupational Exposure Limits - TWAs (AGWs)	10 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)	LOLI DB
128-37-0	Greece - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	Iceland - Occupational Exposure Limits - Ceilings	20 mg/m3 Ceiling	LOLI DB
128-37-0	Iceland - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	Indonesia - Occupational Exposure Limits - Carcinogens	A4 - not classifiable as a human carcinogen	LOLI DB
128-37-0	Indonesia - Occupational Exposure Limits - TWAs (NABs)	10 mg/m3 TWA	LOLI DB
128-37-0	Ireland - Occupational Exposure Limits - Proposed Changes and New Values	2 mg/m3 TWA (to be adopted)	LOLI DB
128-37-0	Ireland - Occupational Exposure Limits - STELs	30 mg/m3 STEL (calculated)	LOLI DB
128-37-0	Ireland - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	Israel - Occupational Exposure Limits - TWAs	2 mg/m3 TWA (inhalable fraction and vapor)	LOLI DB
128-37-0	Italy - Recommended Exposure Limits Based on ACGIH TLVs - Carcinogens	A4 - Not Classifiable as a Human Carcinogen	LOLI DB
128-37-0	Italy - Recommended Exposure Limits Based on ACGIH TLVs - Time Weighted Averages (TWA)	2 mg/m3 TWA (inhalable fraction and aerosol and vapor)	LOLI DB
128-37-0	Japan - ISHL Hazardous Substances with Required Reporting on Occupational Exposure	>=0.1 % weight (Report exposure that occurred between 1/1/2016-12/31/2016 to the head of local labor standards supervision office between 1/1/2017-3/31/2017)	LOLI DB
128-37-0	Korea - ISHA - Occupational Exposure Limits - TWAs	2 mg/m3 TWA (Serial No. 109)	LOLI DB
128-37-0	Macedonia - Occupational Exposure Limits - TWAs	10 mg/m3 TWA ([116])	LOLI DB
128-37-0	Malaysia - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB

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128-37-0	Mexico - Occupational Exposure Limits - Carcinogens	A4 - Not classifiable as a human carcinogen	LOLI DB
128-37-0	Mexico - Occupational Exposure Limits - STELs (LMPE-CTs)	20 mg/m3 STEL [PPT-CT]	LOLI DB
128-37-0	Mexico - Occupational Exposure Limits - TWAs (LMPE-PPTs)	10 mg/m3 TWA VLE-PPT	LOLI DB
128-37-0	New Zealand - Environmental Exposure Limits (EELs)	14 Å,Åµg/L EEL (Water)	LOLI DB
128-37-0	New Zealand - Workplace Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	Nicaragua - Occupational Exposure Limits - TWAs	2 mg/m3 TWA (inhalable fraction and vapor)	LOLI DB
128-37-0	Panama - Occupational Exposure Limits - STELs	20 mg/m3 STEL	LOLI DB
128-37-0	Panama - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	Portugal - Occupational Exposure Limits - Carcinogens	A4 - Not Classifiable as a Human Carcinogen	LOLI DB
128-37-0	Portugal - Occupational Exposure Limits - TWAs (VLE-MPs)	2 mg/m3 TWA [VLE-MP] (inhalable fraction)	LOLI DB
128-37-0	Singapore - Occupational Exposure Limits - PELs	10 mg/m3 PEL	LOLI DB
128-37-0	Slovenia - Occupational Exposure Limits - TWAs	10 mg/m3 TWA (inhalable fraction)	LOLI DB
128-37-0	South Africa - Mine Safety - Occupational Exposure Limits - Pollutant Codes	255	LOLI DB
128-37-0	South Africa - Mine Safety - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	South Africa - Recommended Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	Spain - Occupational Exposure Limits - TWAs (VLA-EDs)	10 mg/m3 TWA [VLA-ED]	LOLI DB
128-37-0	Switzerland - Occupational Exposure Limits - Carcinogens	Category C1B carcinogen	LOLI DB
128-37-0	Switzerland - Occupational Exposure Limits - Developmental Risk Groups	Developmental Risk Group C	LOLI DB
128-37-0	Switzerland - Occupational Exposure Limits - STELs - (KZWs)	40 mg/m3 STEL [KZW] (inhalable dust)	LOLI DB
128-37-0	Switzerland - Occupational Exposure Limits - TWAs - (MAKs)	10 mg/m3 TWA [MAK] (inhalable dust)	LOLI DB
128-37-0	U.S. - California - Occupational Exposure Limits - PELs	10 mg/m3 PEL	LOLI DB
128-37-0	U.S. - Connecticut - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	U.S. - Michigan - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	U.S. - Minnesota - Permissible Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	U.S. - New York - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	U.S. - Tennessee - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	U.S. - Vermont - Permissible Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	U.S. - Washington - Permissible Exposure Limits - STELs	20 mg/m3 STEL	LOLI DB
128-37-0	U.S. - Washington - Permissible Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB
128-37-0	United Arab Emirates - Occupational Exposure Limits - TWAs	10 mg/m3 TWA	LOLI DB

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128-37-0	United Kingdom - Workplace Exposure Limits (WELs) - STELs	30 mg/m ³ STEL (calculated)	LOLI DB
128-37-0	United Kingdom - Workplace Exposure Limits (WELs) - TWAs	10 mg/m ³ TWA	LOLI DB
128-37-0	Uruguay - Occupational Exposure Limits - TWAs	2 mg/m ³ TWA (inhalable particulate matter and vapor)	LOLI DB
128-37-0	Venezuela - Occupational Exposure Limits - Carcinogens	Present	LOLI DB

Materials with no data or no limit values are excluded from this table

8.2 Exposure controls

Engineering Controls: Ensure adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If this are not sufficient to maintain concentrations of particulates and solvent vapors below the OEL, suitable respiratory protection must be worn.

Respiratory Protection: Respirators are generally not needed under normal conditions of use. If this material is handled at elevated temperature, under mist forming conditions or in case of accidental release of large quantities of product use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Protective Gloves: Wear impervious gloves (nitrile or neoprene) for routine handling. Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

RadTech recommends the following glove specifications for UV Acrylate systems:

Single use: disposable, unpowdered, nitrile gloves: Use for short duration exposures not exceeding 30 minutes, in situations where only splashes are likely. Do not use where mechanical resistance is required or where puncturing or tearing of the gloves is likely to occur. Replace immediately if punctured, degraded or tearing of the gloves has occurred.

General use: minimum 0.45mm thick, unlined, unpowdered, natural rubber latex free nitrile gloves: Use for longer duration exposure (up to 4 hours for most UV/EB curing acrylates) or mechanical handling activities. Replace immediately when punctured or when a change of appearance (color, elasticity, shape) occurs

Heavy duty: unlined, natural rubber latex-free nitrile gloves: Use when handling solvents. Avoid the use of chlorinated solvents and limit the use of ketones (e.g. acetone, MEK, MIBK) and ethyl and butyl acetates, as they may accelerate glove deterioration.

Eye and Face Protection: Chemical splash goggles or a face shield is recommended during operations where splashing could occur. Wear protective eyewear (e.g., safety glasses with side-shield) at all times when handling this product. Always use protective eyewear when cleaning spills or leaks. Contact lenses pose a special hazard; soft lenses may absorb and concentrate irritants.

Skin Protection: Avoid all skin contact. Depending on the conditions of use, cover as much of the exposed skin area as possible by wearing gloves, aprons, long pants, and long sleeved shirts.

Other Controls: For operations where contact can occur a safety shower and eye wash facility should be available. Always use good personal hygiene and housekeeping practices. Wash hands thoroughly after handling.

Environmental Exposure Controls: Keep product from waterways and watersheds. This substance is not readily biodegradable and is dangerous for the environment. Avoid release into the environment.

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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Appearance:

Physical state: liquid

Colour: Black

Odour: Acrylate

9.2 Important health, safety and environmental information

Specific Gravity	1.09 – 1.22
Boiling point (C)	>100
Flash Point (C)	>100
Ignition Temperature (C)	No data
Lower Explosion Limit (C)	No data
Upper Explosion Limit (C)	-
Viscosity (cps at 25C)	1500
Vapor Pressure	Unknown
Solubility (Water)	Only very slightly soluble
Solubility (Organic Solvents)	Soluble or swellable in many organic solvents
Volatile Characteristics	Negligible in normal conditions, increased temperature will increase volatility
Electrostatic Discharge	Safe
Electric Conductivity	Dielectric

10. STABILITY AND REACTIVITY

10.1 Stability: Stable when stored in original container designed for use with light sensitive materials under 35 °C (95 °F) in dark, cool place.

10.2 Conditions to avoid: Storage > 38 °C (100 °F), exposure to light, loss of dissolved air, and contamination with incompatible materials.

10.3 Materials to avoid: Polymerization initiators, including peroxides, strong oxidizing agents, alcohols, copper, copper alloys, carbon steel, iron, rust, and strong bases.

10.4 Hazardous decomposition products: Hazardous decomposition products may include oxides of carbon, nitrogen and various hydrocarbon fragments.

10.5 Hazardous Polymerization: Hazardous polymerization may occur. Uncontrolled polymerization may cause rapid evolution of heat and increase in pressure that could result in violent rupture of sealed storage vessels or containers.

11. TOXICOLOGICAL INFORMATION

CAS	List Name	List Details	Source
5888-33-5	Toxicology Data - Selected LD50s and LC50s	Oral LD50 Rat 4890 mg/kg (Source: NLM_CIP)	LOLI DB
5888-33-5	Toxicology Data - Selected Oral LD50s	Oral LD50 Rat 4890 mg/kg (Source: NLM_CIP)	LOLI DB
128-37-0	NTP (National Toxicology Program) - Management Status Report - Evidence of Carcinogenicity	Male Rat - No Evidence; Female Rat - No Evidence; Male Mice - No Evidence; Female Mice - No Evidence (TR-150)	LOLI DB
128-37-0	NTP (National Toxicology Program) - Management Status Report - Testing Status and NTIS Number	Printed Long-Term and Short-Term Study Reports: Long-Term Studies 16	LOLI DB
128-37-0	Toxicology Data - Selected Dermal LD50s	Dermal LD50 Rat >2000 mg/kg (no deaths occurred)	LOLI DB
128-37-0	Toxicology Data - Selected LD50s and LC50s	Oral LD50 Rat >2930 mg/kg (aqueous dispersion at 10% w/v of arabic gum)	LOLI DB
128-37-0	Toxicology Data - Selected Oral LD50s	Oral LD50 Rat >2930 mg/kg (aqueous dispersion at 10% w/v of arabic gum)	LOLI DB

Materials with no data or no toxicology data are excluded from this table

Safety Data Sheet
 according to Regulation (EC) No 1907/2006 and 1272/2008,
 Hazard Communication Standard 29 CFR 1910 (USA),
 WHS Regulations Australia,
 JIS Z 7253 (2012) Japan

Figure 4 ELAST-BLK 10

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12. ECOLOGICAL INFORMATION

Keep product from waterways and watersheds. This substance is not readily biodegradable. Dispose of in accordance with all applicable federal, state and local regulations.

13. DISPOSAL CONSIDERATIONS

13.1 Appropriate disposal / Product: Do not contaminate drains, soil or surface waters with this material or its container. Reduce waste by attempting to utilize product completely. Dispose of this container and its contents in accordance with all local, state, and federal regulations. Do not reuse or refill.

13.2 Contaminated Packaging: Dispose of as unused product. If material is not solid then container must be disposed of according to local regulations.

13.3 Additional information: Prior to disposal 3D Systems recommends consulting an approved waste disposal firm to ensure regulatory compliance.

14. TRANSPORT INFORMATION

	DOT	IATA	IMDG	ADR/RID
UN Number	Non-regulated	Non-regulated	Non-regulated	Non-regulated

15. REGULATORY INFORMATION

The following provides a summary of the legal requirements.

International Inventories	
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory	Complies
AICS - Australian Inventory of Chemical Substances	Complies
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List	Complies
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances	Complies
ENCS - Japan Existing and New Chemical Substances	Does Not Comply
IECSC - China Inventory of Existing Chemical Substances	Complies
KECL - Korean Existing and Evaluated Chemical Substances	Complies
NZIoC - New Zealand Inventory of Chemicals	Complies
PICCS - Philippines Inventory of Chemicals and Chemical Substances	Complies
ECSI - Taiwan Existing Substance Inventory	Complies
EU - REACH	All Items are Registered
CERCLA/ SARA - Section 302	No Items Listed
CERCLA/ SARA - Section 303	No Items Listed

Safety Data Sheet
according to Regulation (EC) No 1907/2006 and 1272/2008,
Hazard Communication Standard 29 CFR 1910 (USA),
WHS Regulations Australia,
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Figure 4 ELAST-BLK 10

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16. OTHER INFORMATION

16.1 Abbreviations

TWA	Time Weighted Average
OEL	Occupational Exposure Limits
PEL	Permissible Exposure Limit
TLV	Threshold Limit Value
STEL	Short Term Exposure Limit
WEEL	Workplace Environmental Exposure Level by the American Industrial Hygiene Association

16.2 References:

1. Raw Material Manufacturers Material Safety Data Sheets
2. IARC International Agency for Research on Cancer
3. NTP National Toxicology Program - RoC Report on Carcinogens
4. 2011 Threshold Limit Values and Biological Exposure Indices. American Conference of Governmental Industrial Hygienists.
5. SAX'S Dangerous Properties of Industrial Materials, Tenth Edition
6. TSCA & SARA Title III, U.S. Environmental Protection Agency and the National Technical Information Services
7. US National Institute of Medicines Toxnet current edition
8. ESIS: European Chemical Substance Information System, <http://ecb.jrc.it/esis>
9. NOHSC Hazardous Information Substances Information System, Department of Employment and Workplace Relations

16.3 Further information:

SDS Creation Date: May 1, 2018
SDS Revision #: -02-A
SDS Revision Date: May 23, 2018
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