SAFETY DATA SHEET
(Version 1)

Based on Directive 2001/58/EC of the Commission of the European Communities

FULLCURE 870 VEROBLACK

1. Identification of the substance/preparation and of the company/undertaking

1.1 Identification of the substance or preparation:

Synonyms: none
CAS No. : N.A.
EC index No. : N.A.
EINECS No. : N.A.
RTECS No. : N.A.
NFPA code : N.D.
Molecular weight : N.A.
Formula : N.A.

1.2 Use of the substance or the preparation:

Toner

1.3 Company/undertaking identification:

Objet Geometries Ltd - Europe
Leuvensesteenweg 388
B-1932 Sint-Stevens-Woluwe
Tel. : +32 2 717 65 02
Fax : +32 2 717 65 00
Email: info@2objet.com, www.2objet.com

1.4 Telephone number for emergency:

See 1.3

2. Composition/information on ingredients

Hazardous ingredients	CAS No. EINECS/ELINCS No.	Conc. in %	Hazard symbol	Risks (R-phrases)
Acrylic monomer (2)	Proprietary (2)	15-30	Xn	22-41-43-48/22 (1)
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	5888-33-5 227-561-6	15-30	Xi	43 (1)
urethane acrylate oligomer	N.D.	15-30	Xi	36/38 (1)
epoxy acrylate	154608-99-8 -	≤15	Xn	20/22-36/37/38-43 (1)
acrylate oligomer	N.D.	≤15	Xi	36/38 (1)
[2-[1,1-dimethyl-2-[(1-oxoallyl)oxy]ethyl]-5-ethyl-1,3-dioxan-5-yl]methyl acrylate	87320-05-6 289-312-8	≤15	Xi	43 (1)
Photoinitiator	Proprietary (2)	≤5	Xn - N	62-51/53 (1)

(1) For R-phrases in full: see heading 16
(2) Objet proprietary information

3. Hazards identification

- Classified dangerous in accordance with Directives 67/548/EEC and 1999/45/EC
- In normal conditions of use, the components cannot be released

4. First aid measures

4.1 Eye contact:
- Consult a doctor/medical service if irritation persists
- Rinse immediately with plenty of water for 15 minutes
- Do not apply neutralizing agents

4.2 Skin contact:
- Consult a doctor/medical service if irritation persists
- Soap may be used
- Wash immediately with lots of water

4.3 After inhalation:
- Consult a doctor/medical service if breathing problems develop
- Remove the victim into fresh air
- Unconscious: maintain adequate airway and respiration

4.4 After ingestion:
- Consult a doctor/medical service if you feel unwell
- Immediately give lots of water to drink
- Never give water to an unconscious person
- Do not induce vomiting

5. Fire-fighting measures

5.1 Suitable extinguishing media:
- Water spray
- AFFF foam
- BC powder
- Carbon dioxide

5.2 Unsuitable extinguishing media:
- No data available

5.3 Special exposure hazards:
- Combustible
- On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide)

5.4 Instructions:
- If exposed to fire cool the closed containers by spraying with water
- Dilute toxic gases with water spray

5.5 Special protective equipment for firefighters:
- Heat/fire exposure: compressed air/oxygen apparatus
- Protective clothing for exposure to chemicals

6. Accidental release measures

6.1 Personal protection/precautions:
See heading 8.2/8.3/13

6.2 Environmental precautions:
- Contain leaking substance

6.3 Methods for cleaning up:
- Take up liquid spill into absorbent material, e.g.: sand
- Scoop absorbed substance into closing containers
- Clean contaminated surfaces with an excess of water
- Wash clothing and equipment after handling

7. Handling and storage

7.1 Handling:

Accidental release of the contents:
- Observe very strict hygiene - avoid contact
- Remove contaminated clothing immediately

- Clean contaminated clothing

7.2 Storage:

- Keep container tightly closed
- Store at room temperature
- Keep out of direct sunlight
- Store in a dry area
- Keep away from: heat sources

Storage temperature	: N.D.	**°C**
Quantity limits	: N.D.	**kg**
Storage life	: N.D.	**days**
Materials for packaging	:	

- suitable : no data available
- to avoid : no data available

7.3 Specific uses:

- See information supplied by the manufacturer

8. Exposure controls/Personal protection

8.1 Exposure limit values:

TLV-TWA	: not listed
TLV-STEL	: not listed
TLV-Ceiling	: not listed
OES-LTEL	: not listed
OES-STEL	: not listed
MEL-LTEL	: not listed
MEL-STEL	: not listed
MAK	: not listed
TRK	: not listed
MAC-TGG 8 h	: not listed
MAC-TGG 15 min.	: not listed
MAC-Ceiling	: not listed
VME-8 h	: not listed
VLE-15 min.	: not listed
GWBB-8 h	: not listed
GWK-15 min.	: not listed
Momentary value	: not listed
EC	: not listed
EC-STEL	: not listed

Sampling methods:

- No data available

8.2 Exposure controls:

8.2.1 Occupational exposure controls:

Accidental release of the contents:

- Work under local exhaust/ventilation

8.2.2 Environmental exposure controls: see heading 13

8.3 Personal protection:

8.3.1 respiratory protection:

- Not required for normal conditions of use

8.3.2 hand protection:

- Accidental release of the contents: Gloves

Suitable materials: No data available

- Breakthrough time: N.D.

8.3.3 eye protection:
- Accidental release of the contents: Face shield

8.3.4 skin protection:
- Accidental release of the contents: Protective clothing
  Suitable materials: No data available

9. Physical and chemical properties

9.1 General information:

Appearance (at 20°C)	:	Toner cartridge
Odour	:	The contents: mild odour
Colour	:	The contents: Black

9.2 Important health, safety and environmental information:

pH value	:	N.D.	
Boiling point/boiling range	:	N.D.	**°C**
Flashpoint	:	> 100	**°C**
Explosion limits	:	N.D.	**vol%** (**°C**)
Vapour pressure (at 20°C)	:	N.D.	**hPa**
Vapour pressure (at 50°C)	:	N.D.	**hPa**
Relative density (at 20°C)	:	N.D.	
Water solubility	:	insoluble	
Soluble in	:	N.D.	
Relative vapour density	:	N.D.	
Viscosity	:	N.D.	**Pa.s**
Partition coefficient n-octanol/water	:	N.D.	
Evaporation rate			
ratio to butyl acetate	:	N.D.	
ratio to ether	:	N.D.	

9.3 Other information:

Melting point/melting range	:	N.D.	**°C**
Auto-ignition point	:	N.D.	**°C**
Saturation concentration	:	N.D.	**g/m^3**

10. Stability and reactivity

10.1 Conditions to avoid/reactivity:
- Unstable on exposure to heat
- Unstable on exposure to light

10.2 Materials to avoid:
- Keep away from: heat sources

10.3 Hazardous decomposition products:
- Polymerizes on exposure to light
- On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide)

11. Toxicological information

11.1 Acute toxicity:

Acrylic monomer (proprietary (2))

LD50 oral rat	:	588	**mg/kg**
LD50 dermal rat	:	> 2000	**mg/kg**
LD50 dermal rabbit	:	N.D.	**mg/kg**
LC50 inhalation rat	:	N.D.	**mg/l/4 h**
LC50 inhalation rat	:	N.D.	**ppm/4 h**

11.2 Chronic toxicity:

EC carc. cat.	:	not listed
EC muta. cat.	:	not listed
EC repr. cat.	:	not listed
Carcinogenicity (TLV)	:	not listed
Carcinogenicity (MAC)	:	not listed
Carcinogenicity (VME)	:	not listed
Carcinogenicity (GWBB)	:	not listed
Carcinogenicity (MAK)	:	not listed
Mutagenicity (MAK)	:	not listed
Teratogenicity (MAK)	:	not listed
IARC classification	:	not listed

11.3 Routes of exposure:
- In normal conditions of use, the hazardous contents cannot be released

11.4 Acute effects/symptoms:

The following symptoms may appear when the components are released:

- AFTER SKIN CONTACT
- Tingling/irritation of the skin

- AFTER EYE CONTACT
- Irritation of the eye tissue
- Inflammation/damage of the eye tissue

11.5 Chronic effects:

- May produce an allergic reaction

- The following symptoms may appear when the components are released:

- ON CONTINUOUS/REPEATED EXPOSURE/CONTACT:
- Skin rash/inflammation

12. Ecological information

12.1 Ecotoxicity:

- No data available

12.2 Mobility:

- **Volatile organic compounds (VOC):** N.D.%
- Insoluble in water

For other physicochemical properties see heading 9

12.3 Persistence and degradability:

- **biodegradation BOD_5** : N.D. **% ThOD**
- **water** : N.D.
- **soil** : **T ½:** N.D. **days**

12.4 Bioaccumulative potential:

- **log P_{ow}** : N.D.
- **BCF** : N.D.

12.5 Other adverse effects:

- **WGK** : N.V.T
- **Effect on the ozone layer** : Not dangerous for the ozone layer (1999/45/EC)
- **Greenhouse effect** : no data available
- **Effect on waste water purification** : no data available

13. Disposal considerations

13.1 Provisions relating to waste:

- Waste material code (91/689/EEC, Council Decision 2001/118/EC, O.J. L47 of 16/2/2001): 08 03 17* (waste printing toner containing dangerous substances)
- Hazardous waste (91/689/EEC)

13.2 Disposal methods:

- Refer to manufacturer/supplier for information on recovery/recycling
- Remove to an authorized waste treatment plant

13.3 Packaging/Container:

- No available data

14. Transport information

14.1 Classification of the substance in compliance with UN Recommendations

UN number	:
CLASS	: –
SUB RISKS	:
PACKING	:
PROPER SHIPPING NAME	:

14.2 ADR (transport by road)

CLASS	: NOT SUBJECT
PACKING	:
CLASSIFICATION CODE	:
DANGER LABEL TANKS	:
DANGER LABEL PACKAGES	:

14.3 RID (transport by rail)

CLASS	: NOT SUBJECT
PACKING	:
CLASSIFICATION CODE	:
DANGER LABEL TANKS	:
DANGER LABEL PACKAGES	:

14.4 ADNR (transport by inland waterways)

CLASS	: NOT SUBJECT
PACKING	:
CLASSIFICATION CODE	:
DANGER LABEL TANKS	:
DANGER LABEL PACKAGES	:

14.5 IMDG (maritime transport)

CLASS	: NOT SUBJECT
SUB RISKS	:
PACKING	:
MFAG	:
EMS	:
MARINE POLLUTANT	:

14.6 ICAO (air transport)

CLASS	: NOT SUBJECT
SUB RISKS	:
PACKING	:
PACKING INSTRUCTIONS PASSENGER AIRCRAFT	:
PACKING INSTRUCTIONS CARGO AIRCRAFT	:

15. Regulatory information

Classified dangerous in accordance with Directives 67/548/EEC and 1999/45/EC. In normal conditions of use, the components cannot be released because of the form in which the article or preparation is placed on the market.

Contains: Acrylic monomers and oligomers; epoxy acyrlate; exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate; [2-[1,1-dimethyl-2-[(1-oxoallyl)oxy]ethyl]-5-ethyl-1,3-dioxan-5-yl]methyl acrylate. May produce an allergic reaction

16. Other information

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

N.A. = NOT APPLICABLE
N.D. = NOT DETERMINED
(*) = INTERNAL CLASSIFICATION (NFPA)

Exposure limits:

TLV	:	Threshold Limit Value - ACGIH USA 2004
OES	:	Occupational Exposure Standards - United Kingdom 2003
MEL	:	Maximum Exposure Limits - United Kingdom 2003
MAK	:	Maximale Arbeitsplatzkonzentrationen - Germany 2002
TRK	:	Technische Richtkonzentrationen - Germany 2002
MAC	:	Maximale aanvaarde concentratie - The Netherlands 2004
VME	:	Valeurs limites de Moyenne d'Exposition - France 1999
VLE	:	Valeurs limites d'Exposition à court terme - France 1999
GWBB	:	Grenswaarde beroepsmatige blootstelling - Belgium 2002
GWK	:	Grenswaarde kortstondige blootstelling - Belgium 2002
EC	:	Indicative occupational exposure limit values - directive 2000/39/EC

Chronic toxicity:

K	:	List of the carcinogenic substances and processes - The Netherlands 2004

Full text of any R-phrases referred to under heading 2:

R20/22	:	Harmful by inhalation and if swallowed
R22	:	Harmful if swallowed
R36/37/38	:	Irritating to eyes, respiratory system and skin
R36/38	:	Irritating to eyes and skin
R41	:	Risk of serious damage to eyes
R43	:	May cause sensitisation by skin contact
R48/22	:	Harmful: danger of serious damage to health by prolonged exposure if swallowed
R51/53	:	Toxic to aquatic organisms, may cause long term effects in the aquatic environment
R62	:	Possible risk of impaired fertility