

# SAFETY DATA SHEET

Version-2

## FULLCURE®630 CLEAR

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

#### 1.1 Identification of the substance or preparation:

Product name : FULLCURE®630 CLEAR  
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/preparation:

Ink cartridge  
Professional use

#### 1.3 Company/undertaking identification:

Objet Geometries GMBH  
Airport Boulevard B 210  
77836 Rheinmünster, Germany  
Tel: +49 722 97 77 20  
Fax: +49 722 97 77 29 90  
e-mail address: info@objet.com, www.objet.com

#### 1.4 Emergency telephone:

+49 722 97 77 20 (weekdays 9h-18h)  
Objet Geometries

### 2. Hazards identification

Exposure is limited because of the form in which the product is placed on the market

- Irritating to eyes and skin
- May cause sensitisation by skin contact

### 3. Composition/information on ingredients

Hazardous ingredients	CAS No. EINECS/ELINCS No.	Conc. (%)	Hazards (R-phrases)	Hazard symbol
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	5888-33-5 227-561-6	30-60	43 (1)	Xi
urethane acrylate, oligomer	- -	15-25	36/38 (1)	Xi
Thiol	Proprietary	<1.1	22 (1)	Xn
Photoinitiator	Proprietary	<1	51/53-62 (1)	Xn;N

(1) For R-phrases in full: see heading 16

(2) Substance with a Community workplace exposure limit

(3) PBT-substance

### 4. First aid measures

#### 4.1 After inhalation:

- Remove the victim into fresh air
- Respiratory problems: consult a doctor/medical service

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## FULLCURE® 630 CLEAR

### 4.2 Skin contact:

- Wash immediately with lots of water
- Soap may be used
- Take victim to a doctor if irritation persists

### 4.3 Eye contact:

- Rinse immediately with plenty of water
- Do not apply neutralizing agents
- Take victim to an ophthalmologist if irritation persists

### 4.4 After ingestion:

- Rinse mouth with water
- Immediately give lots of water to drink
- Do not induce vomiting
- Consult a doctor/medical service if you feel unwell

## 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
- Take account of environmentally hazardous firefighting water

### 5.5 Special protective equipment for firefighters:

- Heat/fire exposure: compressed air/oxygen apparatus
- Protective clothing

## 6. Accidental release measures

### 6.1 Personal precautions:

See heading 8.2

### 6.2 Environmental precautions:

Accidental release of the contents:

- Prevent soil and water pollution
- Prevent spreading in sewers
- Contain leaking substance
- Dam up the liquid spill
- See heading 13

### 6.3 Methods for cleaning up:

- Take up liquid spill into absorbent material, e.g.: sand
- Scoop absorbed substance into closing containers
- Carefully collect the spill/leftovers
- Clean contaminated surfaces with an excess of water
- Wash clothing and equipment after handling

## 7. Handling and storage

### 7.1 Handling:

In case of damage, the hazardous contents may be released

Accidental release of the contents:

- Observe very strict hygiene - avoid contact
- Do not discharge the waste into the drain
- Remove contaminated clothing immediately

# FULLCURE® 630 CLEAR

## 7.2 Storage:

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

Storage temperature	: 15/25	°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 use(s):

- See information supplied by the manufacturer for the identified use(s)

# 8. Exposure controls/Personal protection

## 8.1 Exposure limit values:

Exposure is limited because of the form in which the product is placed on the market

### 8.1.1 Occupational exposure:

TLV-TWA	: not listed
TLV-STEL	: not listed
TLV-Ceiling	: not listed
WEL-LTEL	: not listed
WEL-STEL	: not listed
TRGS 900	: not listed
MAK	: not listed
GWBNL 8 h	: not listed
GWKNL 15 min.	: not listed
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

### 8.1.2 Sampling methods:

- NO DATA AVAILABLE

# FULLCURE® 630 CLEAR

## 8.2 Exposure controls:

### 8.2.1 Occupational exposure controls:

Accidental release of the contents:  
- Work under local exhaust/ventilation

#### Personal protective equipment:

##### a) Respiratory protection:

- Not required for normal conditions of use  
Accidental release of the contents:  
- Insufficient ventilation: wear respiratory protection

##### b) Hand protection:

Accidental release of the contents: gloves  
Suitable materials: No data available  
- Breakthrough time: N.D.

##### c) Eye protection:

Accidental release of the contents: face shield

##### d) Skin protection:

Accidental release of the contents: protective clothing  
Suitable materials: No data available

### 8.2.2 Environmental exposure controls: see headings 6.2, 6.3 and 13

## 9. Physical and chemical properties

### 9.1 General information:

Appearance (at 20°C)	: Ink cartridge
Odour	: The contents: characteristic odour
Colour	: The contents: colourless to light-yellow

### 9.2 Important health, safety and environmental information:

pH value (at %)	: N.D.	
Boiling point/boiling range	: N.D.	°C
Flash point/flammability	: > 100	°C
Explosion limits (explosive properties)	: N.D.	vol%
Oxidising properties	: N.D.	
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	: The contents are: insoluble	
Soluble in	: No data available	
Relative vapour density	: N.D.	
Viscosity (at °C)	: 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 temperature	: N.D.	°C
Saturation concentration	: N.D.	g/m <sup>3</sup>
Specific conductivity	: N.D.	pS/m

## 10. Stability and reactivity

### 10.1 Conditions to avoid:

- Unstable on exposure to heat  
- Unstable on exposure to light

### 10.2 Materials to avoid:

- Keep away from: heat sources

# FULLCURE® 630 CLEAR

## 10.3 Hazardous decomposition products:

- After destruction: polymerizes on exposure to light
- On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide) and formation of small quantities of phosphorus oxides, sulphur oxides

## 11. Toxicological information

### 11.1 Acute toxicity:

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate  
LD50 oral rat : 4890 mg/kg  
LD50 dermal rabbit : > 5000 mg/kg

Photoinitiator  
LD50 oral rat : > 2000 mg/kg

### 11.2 Chronic toxicity:

Photoinitiator

EC carc. Cat. : not listed  
EC muta. Cat. : not listed  
EC repr. Cat. : 3

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:

Exposure is limited because of the form in which the product is placed on the market

### 11.4 Acute effects/symptoms:

- AFTER SKIN CONTACT**
- Tingling/irritation of the skin
- AFTER EYE CONTACT**
- Irritation of the eye tissue

### 11.5 Chronic effects:

- May cause sensitization by skin contact
- Contains traces of a (possible) fertility impairing subst. (photoinitiator)

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

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

# FULLCURE® 630 CLEAR

## 12. Ecological information

### 12.1 Ecotoxicity:

**Photoinitiator:**

- LC50 (48 h) : 1/100 mg/l (ORYZIAS LATIPES)

- **Effect on waste water purification** : 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<sub>5</sub>** : N.D. % ThOD

- **water** : - No data available

- **soil** : T ½: N.D. days

### 12.4 Bioaccumulative potential:

- **log P<sub>ow</sub>** : N.D.

- **BCF** : N.D.

### 12.5 Results of PBT assessment:

- Not applicable, based on available data.

### 12.6 Other adverse effects:

- **WGK** : 3

- **Effect on the ozone layer** : Not dangerous for the ozone layer (1999/45/EC)

- **Greenhouse effect** : 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 12\* (waste ink containing dangerous substances)

- LWCA (the Netherlands): KGA category 03

- Hazardous waste (91/689/EEC)

### 13.2 Disposal methods:

- Special waste (VLAREA, M.B. 30/4/2004)

- Refer to manufacturer/supplier for information on recovery/recycling

- Do not landfill

### 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 GROUP :
- 14.2 ADR (transport by road)  
 CLASS : Not subject  
 PACKING GROUP :  
 CLASSIFICATION CODE :  
 DANGER LABEL TANKS :  
 DANGER LABEL PACKAGES :  
 PROPER SHIPPING NAME :
- 14.3 RID (transport by rail)  
 CLASS : Not subject  
 PACKING GROUP :  
 CLASSIFICATION CODE :  
 DANGER LABEL TANKS :  
 DANGER LABEL PACKAGES :  
 PROPER SHIPPING NAME :
- 14.4 ADNR (transport by inland waterways)  
 CLASS : Not subject  
 PACKING GROUP :  
 CLASSIFICATION CODE :  
 DANGER LABEL TANKS :  
 DANGER LABEL PACKAGES :
- 14.5 IMDG (maritime transport)  
 CLASS : Not subject  
 SUB RISKS :  
 PACKING GROUP :  
 MFAQ :  
 EMS :  
 MARINE POLLUTANT :
- 14.6 ICAO (air transport)  
 CLASS : Not subject  
 SUB RISKS :  
 PACKING GROUP :  
 PACKING INSTRUCTIONS PASSENGER AIRCRAFT :  
 PACKING INSTRUCTIONS CARGO AIRCRAFT :
- 14.7 Special precautions : Not restricted for any mode of international transport

## 15. Regulatory information

### 15.1 EU legislation:

Classification according to directives 67/548/EEC, 1999/45/EC and 2006/8/EC  
Exposure is limited because of the form in which the product is placed on the market



Irritant

contains:           exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate

R36/38	:	Irritating to eyes and skin
R43	:	May cause sensitisation by skin contact
S24	:	Avoid contact with skin
S35	:	This material and its container must be disposed of in a safe way
S37	:	Wear suitable gloves

### 15.2 National provisions:

#### The Netherlands:

Waterbezwaarlijkheid: 4

#### Germany:

WGK           : 3           (Classification water polluting based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang4))

**16. Other information**

The information provided on this SDS 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)

**PBT-substances** = persistent, bioaccumulative and toxic substances

**Exposure limits:**

**TLV** : Threshold Limit Value - ACGIH USA  
**WEL** : Workplace Exposure Limits - United Kingdom  
**TRGS 900** : Technische Regel für Gefahrstoffe 900 (Arbeitsplatzgrenzwerte) - Germany  
**MAK** : Maximale Arbeitsplatzkonzentrationen - Germany  
**GWBNL** : Grenswaarde voor blootstelling - The Netherlands  
**GWKNL** : Grenswaarde korte duur - The Netherlands  
**VME** : Valeurs limites de Moyenne d'Exposition - France  
**VLE** : Valeurs limites d'Exposition à court terme - France  
**GWBB** : Grenswaarde beroepsmatige blootstelling - Belgium  
**GWK** : Grenswaarde kortstondige blootstelling - Belgium  
**EC** : Indicative occupational exposure limit values

**I** : Inhalable fraction = **T**: Total dust = **E**: Einatembarer Aerosolanteil  
**R** : Respirable fraction = **A**: Alveolengängiger Aerosolanteil/Alveolar dust  
**C** : Ceiling limit

**Chronic toxicity:**

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

**Full text of any R phrases referred to under headings 2 and 3:**

**R22** : Harmful if swallowed  
**R36/38** : Irritating to eyes and skin  
**R43** : May cause sensitisation by skin contact  
**R51/53** : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment  
**R62** : Possible risk of impaired fertility