

Safety Data Sheet

Figure 4[®] Tough 65C Black

Revision Date: April 5, 2021

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

1.1 Identification of the mixture: Figure 4 Tough 65C Black

1.2 Use of the preparation: For use with Figure 4[®] systems

1.3 Company/undertaking identification:

3D Systems, Inc.
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1.4. Emergency telephone number:

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Chemical Emergency:
800.424.9300 – Chemtrec

Europe:
Chemical Emergency:
+1 703.527.3887 - Chemtrec

Australia:
Chemical Emergency:
+(61) 29037.2994 – Aus Chemtrec

2. HAZARD(S) IDENTIFICATION

2.1 Classification of the substance or mixture

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

Physical Hazard:

None

Health Hazard:

Acute Toxicity (oral)	Category 4	H302
Skin Corrosion/Irritation	Category 2	H315
Skin Sensitization	Category 1	H317

Environmental Hazard:

Chronic aquatic toxicity	Category 2	H411
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2.2 Label Elements

Label according to Regulation (EC) No. 1272/2008



GHS07



GHS09

Signal word: Warning

Contains: 2-Propenoic acid, (5-ethyl-1,3-dioxan-5yl)methyl ester; Phenyl, Bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Hazard statements:

H302: Harmful if swallowed.

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H411: Toxic to aquatic life with long lasting effects.

Safety Data Sheet

Figure 4[®] Tough 65C Black

Revision Date: April 5, 2021

Precautionary statements:

Prevention:

P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash contaminated skin thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
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:

P301 + P317: IF SWALLOWED: Get medical help.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P321: Specific treatment: wash contaminated skin with soap and water. Wash eyes with clean water for about 15 minutes.
P330: Rinse mouth.
P333 + P317: If skin irritation or rash occurs: Get medical help.
P362+P364: Take off contaminated clothing and wash before reuse.
P391: Collect spillage.

Storage:

None

Disposal:

P501: Dispose of contents/container in accordance with local/state/regional regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical characterization:

Description: Organic mixture

3.2 Mixtures:

Chemical name	CAS-number	EC-number	%	Classification Regulation (EC) 1272/2008
2-propeonic acid,2-methyl-,(2-oxo-1,3-dioxolan-4-yl)methyl ester	13818-44-5	604-066-7	30 - 40	Acute Tox (oral) Cat 4 - H302
2-Propenoic acid, (5-ethyl-1,3-dioxan-5yl)methyl ester	66492-51-1	266-380-7	15-30	Skin Irri Cat 2 - H315 Skin Sens Cat 1 - H317 Aqu Chro Cat 2 - H411
Phenyl, Bis(2,4,6-trimethylbenzoyl)-phosphine oxide	162881-26-7	423-340-5	1-5	Skin Sens Cat 1 - H317 Aqu Chro Cate 4 - H413
Acrylate Ester	Proprietary	Proprietary	30-40	Not Classified

4. FIRST AID MEASURES

4.1 General Information: Ensure that eyewash stations and safety showers are close to the workstation location.

4.2 Inhalation: Move affected person to fresh air. If respiratory irritation occurs, if breathing becomes difficult seek medical attention immediately.

4.3 Skin contact: Immediately flush skin with plenty of soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse.

4.4 Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms persist.

4.5 Ingestion: If ingested, drink plenty of water and seek immediate medical attention. Do not induce vomiting.

4.6 Indication of any immediate medical attention and special treatment needed: Put on appropriate protective equipment (see section 8). Move exposed person to fresh air. Remove contaminated clothing and shoes.

Safety Data Sheet

Figure 4[®] Tough 65C Black

Revision Date: April 5, 2021

5. FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media: Water mist, dry chemical, carbon dioxide, or appropriate foam.

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: Thermal decomposition products can include CO₂, CO, NO_x and smoke.

5.4 Special protective equipment and procedure for fire-fighters: Wear full protective clothing, including helmet, self-contained positive-pressure or pressure demand breathing apparatus, protective clothing and facemask.

5.5 Additional information: Move container from area if it can be done without risk. Cool containers with water spray. Avoid inhalation of material or combustion by-products.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions: Keep unnecessary personnel away. Wear appropriate protective equipment and clothing. Consult expert immediately.

6.2 Environmental precautions: Stop the flow of material, if this is without risk. Ventilate contaminated area. Eliminate sources of ignition. In case of contamination of aquatic environment inform local authorities.

6.3 Methods for cleaning up: Wear appropriate protective equipment and clothing to minimise exposure. Use of certified respirators and chemical resistant gloves are required to avoid exposure to any unreacted materials during spill clean-up (use of a 3M 6000 respirator with organic vapor cartridge A2 or half mask 3M 4251 is recommended).

Absorb spillage with suitable absorbent materials. Place all waste in an appropriate air tight bags or containers for disposal. The material and its container must be disposed of as hazardous waste. Keep away from sources of ignition.

7. HANDLING AND STORAGE

7.1 Handling Provide adequate ventilation. Use suitable protective equipment. Avoid contact with skin and eyes. Do not breathe vapors or mist. Avoid ignition sources. Do not allow to enter drains or watercourses.

7.2 Storage: Store sealed in the original container at room temperature. Keep this material indoors in a cool, dry, well ventilated place. Store out of direct sunlight or UV light sources. Storage Temperature: below 35 °C / 95 °F.

Storage class: 6.1D - Non-combustible acutely toxic substances or substances with chronic effects

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure limit values:

General Product Information: No occupational exposure limits (PEL/TWA) have been established for this product.

8.2 Exposure controls

Technical measures to prevent exposure: Use only with machines that have exhaust ventilation capability. Make sure that the carbon filtration at the exhaust is working properly.

Instructual measures to prevent exposure: When using, do not eat, drink or smoke. Wash hands after handling and before eating, smoking and using the lavatory and at the end of the day.

Personal protection equipment:

Respiratory protection: Recommend to establish engineering controls measures, such as local exhaust ventilation, to the printing rooms and post processing areas to minimize inhalation exposure.

Hand protection: Use impervious nitrile gloves.

Eye protection: Wear safety glasses or chemical goggles.

Body protection: Use apron and closed shoes.

Safety Data Sheet

Figure 4[®] Tough 65C Black

Revision Date: April 5, 2021

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	-
Physical state	Liquid
Form	Not available
Color	Black
Odor	Mild acrylate
Odor threshold	Not available
pH	Not available
Melting point/freezing point (°C)	Not available
Initial boiling point and boiling range (°C)	Not available
Flash point (°C)	Not available
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Relative density (g/cm³)	Not available
Upper/lower flammability or explosive limits	-
Flammability limit - lower (%)	Not available
Flammability limit - upper (%)	Not available
Explosive limit - lower (%)	Not available
Explosive limit - upper (%)	Not available
Vapor pressure	Not available
Vapor density	Not available
Solubility(ies)	-
Solubility (water)	insoluble
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature (°C)	Not available
Viscosity (cPs)	~1200 (@ 30 °C)
Other information	-
Oxidizing properties	Not available
VOC (g/L)	Not Available

10. STABILITY AND REACTIVITY

10.1 Conditions to avoid: Avoid exposure to heat and light. Take necessary actions to avoid static electricity discharge.

10.2 Materials to avoid: Oxidizing materials, strong acids and strong bases.

10.3 Hazardous decomposition products: Carbon dioxide, carbon monoxide and other toxic fumes can be released at high temperatures or upon burning.

11. TOXICOLOGICAL INFORMATION

11.1 Toxicokinetics, metabolism and distribution: NA

11.2 Acute effects (toxicity tests) – Formulation has not been tested

Acute toxicity of the components:

Irritation to skin and eye
Causes sensitisation

11.3 Experiences made in practice: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

11.4 General remarks: Carcinogenicity: None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Safety Data Sheet

Figure 4[®] Tough 65C Black

Revision Date: April 5, 2021

12. Ecological information

12.1 Ecotoxicity: The aquatic toxicity of the product is unknown; however based on components, it is predicted that this material may be harmful to aquatic organisms or cause long-term adverse effects in the aquatic environment. Prevent contamination of soil, drains and surface waters.

12.2 Mobility: No information available for product.

12.3 Persistence and degradability: No information available for product.

12.4 Results of PBT assessment: No information available for product

12.5 Other adverse effects: No information available for product

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 Waste codes / waste designations according to EWC / AVV: 070208

13.3 Appropriate packaging: NA

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

14. TRANSPORT INFORMATION

14.1 DOT:

UN-No.: 3082

UN Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Acrylic polymers-other)

Transport hazard class(es):

Class: 9

Subsidiary risk: -

Packing group: III

Environmental Hazard:

Marine pollutant: Yes

Special Precautions for user: Not Available

14.3 IATA:

UN-No.: 3082

UN Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Acrylic polymers-other)

Transport hazard class(es): 9

Class: Not Available

Subsidiary risk: -

Packing group: III

Environmental Hazard: Yes

Special Precautions for user: Not Available

14.2 IMDG:

UN-No.: 3082

UN Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Acrylic polymers-other)

Transport hazard class(es)

Class: 9

Subsidiary risk: -

Packing group: III

Environmental Hazard:

Marine pollutant: Yes

EmS : Not Available

Safety Data Sheet

Figure 4[®] Tough 65C Black

Revision Date: April 5, 2021

14.1 ADR:

UN-No.: 3082
UN Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Acrylic polymers-other)
Transport hazard class(es)
Class: 9
Subsidiary risk: -
Hazard No (ADR): Not available
Tunnel restriction code : Not available
Packing group: III
Environmental Hazard: Yes
Special Precautions for user: Not available

Further information: Inner packages/containers <5kg are exempt from class 9 regulations.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC code: Not applicable.

15. REGULATORY INFORMATION

15.1. European Union Regulation:

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

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended.

Not listed

National regulations:

German Water Hazard Class (WGK): WGK2 (hazard to waters)

15.2. Chemical safety assessment

Chemical Safety Report - No information available

15.3 US FEDERAL

TSCA: All components listed on Active TSCA Inventory or exempt from listing.

TSCA - 5(a) Significant New Use Rule List of Chemicals: Contains 2-propenoic acid, 2-methyl-, (2-oxo-1,3-dioxolan-4-yl)methyl ester (CAS 13818-44-5) subjected to TSCA §5(a)(2) Significant New Use Rule at EPA 40 CFR Part 721.11461.

US. Toxic Substances Control Act (TSCA) Section 12(b): Contains 2-propenoic acid, 2-methyl-, (2-oxo-1,3-dioxolan-4-yl)methyl ester.

SARA 302 EHS List (40 CFR 355 Appendix A): None listed

SARA 313 (40 CFR 372.65): None listed

CERCLA (40 CFR 302.4): None listed

SARA 302 EHS List (40 CFR 355 Appendix A): None listed

SARA 313 (40 CFR 372.65): None listed

CERCLA (40 CFR 302.4): None listed

California Prop. 65 Components: WARNING: This product can expose you to chemicals known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Chemical Name

Toluene

CAS Number

108-88-3

Safety Data Sheet

Figure 4[®] Tough 65C Black

Revision Date: April 5, 2021

15.4 International regulations: All components of this product are registered or exempt from registration according to chemical regulations in Australia, Canada, China, European Union, Switzerland, Taiwan and United States.

This product may contain substances not registered according to chemical regulations in the Japan, New Zealand, Philippines, and South Korea.

16. OTHER INFORMATION

16.1 Relevant Hazard Statements (number and full text) referred to in sections 2 and 3 (according to (EC) No. 1272/2008):

H302: Harmful if swallowed
H315: Causes skin irritation
H317: May cause an allergic skin reaction
H411: Toxic to aquatic life with long-lasting effects
H413: May cause long-lasting harmful effects to aquatic life

16.2 Further information:

SDS Creation Date:February 11, 2020
SDS Revision #:-02-A
SDS Revision Date:April 5, 2021
Reason for Revision:Update section 2, 7.

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