



# Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

**zb<sup>®</sup> 63 binder**

Revision Date: 23 October 2012

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

**1.1 Identification of the substance or preparation:** zb<sup>®</sup>63 binder (clear, cyan, magenta, yellow, black)

**1.2 Use of the substance / preparation:** For use with ZPrinter<sup>®</sup> 3D inkjet printer

**1.3 Company/undertaking identification:**

3D Systems Europe Ltd.  
Mark House, Mark Road  
Hemel Hempstead  
Herts HP2 7  
United Kingdom  
Phone: +44 144-2282600  
703.527.3887 - Chemtrec (U.S.)  
e-mail: info@3dsystems-europe.com

## 2. HAZARDS IDENTIFICATION

**2.1 Classification:** Not classified according to EC-regulation 1272/2008. Not dangerous product according to EC-regulation no. 67/548/EWG or 1999/45/EC.

**2.2 Information pertaining to special dangers for human and environment:** None

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Preparation related information

**Description:** aqueous solution

### 3.2 Hazard ingredients:

Chemical name	CAS-No	EC-No	%	Classification	
				Symbol	R-Phrases
2-pyrrolidone	616-45-5	210-483-1	0-1	Xi	R22, R 37/38, R41

## 4. FIRST AID MEASURES

**4.1 In case of inhalation:** Move affected person to fresh air. If respiratory irritation occurs, seek medical attention immediately.

**4.2 In case of skin contact:** Flush skin with plenty of soap and water.

**4.3 In case of eye contact:** Flush eyes with plenty of water.

**4.4 In case of ingestion:** If ingested, drink plenty of water. Do not induce vomiting.

## 5. FIRE-FIGHTING MEASURES

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

**5.2. Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:** Thermal decomposition products can include CO<sub>2</sub>, CO and nitrogen oxides.



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### 6. ACCIDENTAL RELEASE MEASURES

- 6.1. Personal precautions:** Wear appropriate protective equipment and clothing.
- 6.2. Environmental precautions:** Avoid discharge to sewer system.
- 6.3. Methods for cleaning up:** Wipe up. Place all waste in an appropriate container for disposal.

### 7. HANDLING AND STORAGE

- 7.1 Handling:** Avoid contact with skin and eyes. Do not allow to enter drains or watercourses.
- 7.2 Storage:** Store sealed in the original container at room temperature.

### 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.  
Component Analysis:

Component	Component Manufacturer IEL (Internal Exposure Limit)
2-pyrrolidone	NA

#### 8.2 Exposure controls

**Technical measures to prevent exposure:** Use local exhaust ventilation.

**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:** If ventilation cannot effectively keep vapor concentrations below established limits, appropriate certified respiratory protection must be provided (respiratory mask FFP3).

**Hand protection:** Use impervious nitrile gloves.

**Eye protection:** Wear safety glasses or chemical goggles.

**Body protection:** Use apron and closed shoes.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1 Appearance:

**Physical state:** Liquid (clear, cyan, magenta, yellow or black)

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

pH (20 °C):	9.8
Melting point/range (°C):	0°
Boiling point/range (°C):	100
Flash point (°C):	NA
Ignition temperature (°C):	NA
Vapour pressure (°C):	NA
Density (g/cm <sup>3</sup> ):	1.0
Bulk density (kg/m <sup>3</sup> ):	NA
Water solubility (20°C in g/l):	soluble
Viscosity, dynamic (mPa s):	NA
Dust explosion hazard:	NA
Explosion limits:	NA



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## 10. STABILITY AND REACTIVITY

**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)**

Component	LD <sub>50</sub> Oral	LD <sub>50</sub> Dermal
2-pyrrolidone	328 mg/kg (rats)	NA

**11.3. General remarks:**

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

## 12. Ecological information

**12.1 Ecotoxicity:** The aquatic toxicity of the product is unknown. No data are available for the components of this product.

**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

**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.

## 14. TRANSPORT INFORMATION

**14.1 Land transport (ADR/RID/GGVSE):** Not regulated

**14.2 Sea transport (IMDG-Code/GGVSee):** Not regulated

**14.3 Air transport (ICAO-IATA/DGR):** Not regulated

## 15. REGULATORY INFORMATION

**15.1 EU regulations**

**Chemical Safety Assessment:**

**Labelling**

Hazard symbols and hazard statements: Not classified

**15.2 National regulations**

Wassergefährdungsklasse (water hazard class, Germany): WGK 1: Weak hazard to waters

Other regulations, restrictions and prohibition regulations: All components are listed on the TSCA and EINECS inventories or are exempt from listing requirements



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## 16. OTHER INFORMATION

### 16.1 Relevant R-Phrases (Number and full text) referred to in sections 2 and 3:

R41: Risk of serious damage to eyes.  
R22: Harmful if swallowed  
R37/38: Irritating to respiratory system and skin

**Xi:** Irritant

### 16.2 Further information:

SDS Creation Date:.....October 23, 2012  
SDS Revision #: .....NA  
SDS Revision Date: .....NA  
Reason for Revision:.....NA

[www.3dsystems.com](http://www.3dsystems.com)

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