

## 1. Identification

Product name	xCLEAN
<b>Manufacturer or Supplier's Details</b>	
Company Name	Nexa3D, Inc.
Address	1923 Eastman Ave. STE200 Ventura, CA 93003 USA
Telephone	1-805-465-9001
<b>Emergency Contact</b>	
Emergency Telephone	ChemTel 1-800-255-3924 (US) / 1-813-248-0585 Contract MIS3892732
<b>Recommended use of the chemical and restrictions on use</b>	
Recommended Use	Solvent for washing photopolymer residues
Restrictions on use	None known

## 2. Hazards Identification

### GHS classification in accordance with 29 CFR 1902.1200

Flammable Liquids	Category 4
Acute toxicity (Oral)	Category 4
Acute toxicity (Inhalation)	Category 4
Acute toxicity (dermal)	Category 4
Eye irritation	Category 2A
Skin irritation	Category 2
Specific target organ systematic toxicity single exposure	Category 3 (Respiratory system)

### GHS label elements

Hazard pictograms



Signal Word	Warning
Hazard Statements	H227 Combustible Liquid
	H302 H332 Harmful if swallowed or inhaled
	H315 Causes skin irritation
	H319 Causes serious eye irritation
	H336 May cause drowsiness or dizziness

Precautionary Statements	Prevention:
	P210 Keep away from flames and hot surfaces - No smoking P261 Avoid breathing dust/fume/gas/mist/vapors/spray P264 Wash skin thoroughly after handling P270 Do not eat drink or smoke when using this product P271 Use only outdoors or in a well-ventilated area P280 Wear protective gloves/eye protection/face protection
	Response:
	P310 P312 P330 IF SWALLOWED Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. P302 P352 P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/doctor if you feel unwell.

P304 P340 P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.  
P305 P351 P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P332 P313 If skin irritation occurs: Get medical advice/attention.  
P337 P313 If eye irritation persists: Get medical advice/attention  
P362 Take off contaminated clothing and wash before reuse  
P370 P378 In case of fire: Use dry sand, dry chemical, or alcohol resistant foam to extinguish.

Disposal:

P501 Dispose of contents/container to an approved waste disposal plant

Other hazards

No additional information available

### 3. Composition / Information on Ingredients

Chemical Name	CAS Number	EC-Number	Concentration (%wt)*
2-butoxyethanol	111-76-2	203-905-0	>98%

\*Exact percentages may vary or are a trade secret. Concentration range is provided to assist users in providing appropriate protections.

### 4. First-Aid Measures

#### Description of first aid measures

Inhalation	Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
Skin contact	Wash immediately with lots of water. Soap may be used. Take victim to a doctor if irritation persists
Eye contact	Rinse immediately with plenty of water. Do not apply neutralizing agents. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist if irritation persists.
Ingestion	Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Call a POISON CENTER/ doctor.

#### Most important symptoms and effects

Potential Adverse human health effects and symptoms	Harmful if swallowed. Causes mild skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness.
Chronic symptoms	No effects known.

#### Immediate medical attention and special treatment, if necessary

Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Do not induce vomiting.

### 5. Fire-Fighting Measures

General Fire Hazards	Combustible liquid and vapor
Suitable extinguishing media	Water spray

Dry chemical  
Carbon Dioxide (CO<sub>2</sub>)  
Foam

Unsuitable extinguishing media	Do not use solid water stream
Specific hazards during fire fighting	Forms peroxides of unknown stability
Hazardous combustion products	None known
Special protective equipment for fire-fighters	Wear positive pressure self-contained breathing apparatus in addition to standard firefighting gear.

## 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:	Wear appropriate personal protective equipment.
Environmental Precautions	Avoid release to the environment.
Methods and material for containment and cleaning up	Eliminate sources of ignition. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Large Spillages: Flush spill area with water spray. Prevent runoff from entering drains, sewers, or streams. Dike for later disposal.
Notification Procedures	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

## 7. Handling and Storage

Precautions for safe handling	Containers, even those that have been emptied, will retain product residue and vapor and should be handled as if they were full. Do not handle near heat, sparks, or flame. Avoid contact with incompatible agents. Use only with adequate ventilation/ personal protection. Avoid contact with eyes, skin and clothing. Do not enter storage area unless adequately ventilated. Metal containers involved in the transfer of this material should be grounded and bonded
Hygiene measures	Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Storage Conditions	Prevent unauthorized access. Keep away from open flames, hot surfaces and sources of ignition. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

## 8. Exposure Controls / Personal Protection

### Components with occupational exposure limits

Ingredient	CAS Number	Value type	Permissible concentration	Basis
2-butoxyethanol	111-762	TWA	20ppm	ACGIH
		TWA	5ppm	NIOSH REL

			24 mg/m <sup>3</sup>	
		TWA	50ppm 240 mg/m <sup>3</sup>	OSHA Z-1
		TWA	25ppm 120 mg/m <sup>3</sup>	OSHA P0

**Appropriate engineering controls**

Ensure good ventilation of the workstation. Ensure that eyewash stations and safety showers are close to the workstation location. Handle only in a place equipped with local exhaust (or other appropriate exhaust).

**Personal protective equipment**

Hand protection	Gloves
Eye protection	Wear safety glasses as minimum eye protection. Conditions may warrant the use of chemical goggles and possibly a face shield. Consult your standard operating procedure or safety professional for advice. Use protective eye and face devices that comply with ANSI Z87.1-1987
Skin protection	Protective clothing
Respiratory protection	Full face mask with filter type A when concentration in air is greater than exposure limit.

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## 9. Physical and Chemical Properties

**Information on basic physical and chemical properties**

Physical State	Liquid
Form	Liquid
Color	Colorless
Odor	Mild sweet, ester
Odor threshold	0.48ppm
Freezing point	-75°C
Boiling point	171°C
Flash point (closed cup)	67°C
Relative evaporation rate	0.1
Flammability (solid, gas)	Not applicable
Vapor pressure	1.17 hPa (25°C)
Vapor density (air=1)	4
Specific gravity	0.90 (20°C) g/cm <sup>3</sup>
Solubility in water	900 g/l (25°C)
Partition coefficient (n-octanol/water)	log POW 0.81
Auto-ignition temperature	230-245°C
Decomposition temperature	124.7°C (DSC) 21.7 J/g weak exotherm
Dynamic viscosity	3.3 mPa-s (20°C)
Kinematic viscosity	3.64 mm <sup>2</sup> /s (20°C)
Explosive properties	No data available
Oxidizing properties	Not classified

**Other Information**

Minimum ignition temperature	230°C
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**10. Stability and Reactivity**

Reactivity	None known
Chemical Stability	Stable
Possibility of hazardous reactions	Forms peroxides of unknown stability
Conditions to avoid	Heat, sparks, flames
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	Carbon Dioxide, Carbon Monoxide

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**11. Toxicological Information****Acute toxicity**

Harmful if swallowed, in contact with skin, or inhaled

**Product**

Acute oral toxicity	No data available
Acute inhalation toxicity	No data available
Acute dermal toxicity	No data available

***2-butoxyethanol***

Acute oral toxicity	LD50 Oral (rat) 1,300 mg/k g
Acute inhalation toxicity	LC50 Vapor (rat) > 4.9 mg/l
Acute dermal toxicity	LD50 Dermal (rat) > 2,000 mg/kg
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Skin corrosion / irritation	Not classified
Serious eye irritation / damage	Causes serious eye irritation

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**12. Ecological Information****Eco-Toxicity**

Not harmful to crustacea. Not harmful to fishes. Groundwater pollutant. Slightly harmful to algae. Slightly harmful to bacteria. No significant hydrolysis.

***2-butoxyethanol***

Fish	LC50 Fish 1474 mg/l (OECD 203 Fish Acute Toxicity Test 96h)
Aquatic Invertebrates	EC50 Daphnia 1550 mg/l (OECD 202 Daphnia sp. Acute Immobilization Test 48h)

**Persistence and degradability**

Readily biodegradable in water

**Bioaccumulative potential*****2-butoxyethanol***

Log Pow

0.81 (20°C)

Bioaccumulative potential

Low potential for bioaccumulation (log Kow &lt; 4)

**Mobility in soil**  
***2-butoxyethanol***

Surface tension

65 mN/m (20°C)

Ecology – soil

Low potential for adsorption in soil

**Other adverse effects**

No data available

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**13. Disposal Considerations**

General information

No data available

Disposal methods

Dispose of waste and residues in accordance with local authority requirements. Incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied.

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**14. Transport Information**

DOT

Class combustible liquid, Packing group III for quantities of 450 liters (119 gallons) or more; not regulated for smaller quantities

Possible shipping description: NA 1993 Combustible liquid, n.o.s., 3, III

DOT quantity limitations passenger aircraft / rail (49 CFR 173.27) – 60L

DOT quantity limitations cargo aircraft (49 CFR 175.75) – 220L

IMDG – International Maritime  
Dangerous Goods Code

Class not regulated

IATA

Class not regulated

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**15. Regulatory Information****US Federal Regulations*****2-butoxyethanol***

Listed on the US Toxic Substances Control Act (TSCA) inventory

SARA 302 / 304: This product contains no known chemicals regulated under SARA 302 / 304

SARA 311 / 312: Fire hazard. Acute health

SARA 313: 2-Butoxyethanol Reporting threshold 1.0%

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

**2-butoxyethanol**

This material contains the following chemical substance which is regulated under California Proposition 65.

Ethylene glycol 107-21-1

**International Regulations****2-butoxyethanol**

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): All intentional components of this product are listed on the DSL. Any impurities present in this product are exempt from listing

AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): The intentional components of this product are listed on AICS or otherwise complies with NICNAS. Any impurities present in this product are exempt from listing.

MITI (Japanese Handbook of Existing and New Chemical Substances): This product is listed in the Handbook or has been approved in Japan by new substance notification

ECL (Korean Toxic Substances Control Act): The intentional components of this product are listed on the Korean inventory or otherwise complies with the Korean Toxic Substances Control Act.

Philippines Inventory (PICCS) : The intentional components of this product are listed on the Philippine Inventory or otherwise comply with PICCS.

Inventory of Existing Chemical Substances in China: All intentional components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

**16. Other Information**

HMIS® Hazard Ratings

Health - 2\*, Flammability - 2, Chemical Reactivity - 1

Full text of H-phrases

H227	Combustible liquid
H302	Harmful if swallowed
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness

NFPA health hazard

2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury

NFPA fire hazard

2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.

