1. Identification

Product name: xClean

Manufacturer or Supplier’s Details

Company Name: Nexa3D, Inc.
Address: 1923 Eastman Ave. STE200
Ventura, CA 93003
USA

Telephone: 1-805-465-9001

Emergency Contact

Emergency Telephone: ChemTel 1-800-255-3924 (US) / 1-813-248-0585 Contract MIS3892732

Recommended use of the chemical and restrictions on use

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
- 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 H312 H332 Harmful if swallowed, in contact with skin, or inhaled
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H335 May cause respiratory irritation

Precautionary Statements

Prevention:
- P210 Keep away from heat/sparks/open flames/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.

Storage:
P403 P233 Store in a well-ventilated place. Keep container tightly closed.
P403 P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

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

Other hazards
No additional information available

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>EC-Number</th>
<th>Concentration (%wt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butoxyethanol</td>
<td>111-762</td>
<td>203-905-0</td>
<td>&gt;98%</td>
</tr>
</tbody>
</table>

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 May be harmful if swallowed and enters airways. 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 (CO₂)
- 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**
- Avoid breathing mists or vapors. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling. Minimize exposure to air. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Do not allow to evaporate to near dryness. Do not distill to near dryness. Addition of water or appropriate reducing materials will lessen peroxide formation.

**Conditions for safe storage, including any incompatibilities**

**Specific end use(s)**

8. **Exposure Controls / Personal Protection**

**Components with occupational exposure limits**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>Value type</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butoxyethanol</td>
<td>111-762</td>
<td>TWA</td>
<td>20ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>5ppm 24 mg/m³</td>
<td>NIOSH REL</td>
</tr>
</tbody>
</table>
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.

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/cm3
- 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 mm2/s (20°C)
- Explosive properties: No data available
- Oxidizing properties: Not classified

Other Information
- Minimum ignition temperature: 230°C
- VOC content: 99%
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

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/kg

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

12. Ecological Information

Eco-Toxicity

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
### Disposal Considerations

<table>
<thead>
<tr>
<th>General information</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disposal methods</td>
<td>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.</td>
</tr>
</tbody>
</table>

### Transport Information

<table>
<thead>
<tr>
<th>DOT</th>
<th>Class combustible liquid, Packing group III for quantities of 450 liters (119 gallons) or more; not regulated for smaller quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Possible shipping description: NA 1993 Combustible liquid, n.o.s., 3, III</td>
</tr>
<tr>
<td></td>
<td>DOT quantity limitations passenger aircraft / rail (49 CFR 173.27) – 60L</td>
</tr>
<tr>
<td></td>
<td>DOT quantity limitations cargo aircraft (49 CFR 175.75) – 220L</td>
</tr>
<tr>
<td>IMDG – International Maritime Dangerous Goods Code</td>
<td>Class not regulated</td>
</tr>
<tr>
<td>IATA</td>
<td>Class not regulated</td>
</tr>
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### Regulatory Information

<table>
<thead>
<tr>
<th>US Federal Regulations</th>
<th>2-butoxyethanol</th>
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</thead>
<tbody>
<tr>
<td>Listed on the US Toxic Substances Control Act (TSCA) inventory</td>
<td></td>
</tr>
<tr>
<td>SARA 302 / 304: This product contains no known chemicals regulated under SARA 302 / 304</td>
<td></td>
</tr>
<tr>
<td>SARA 311 / 312: Fire hazard. Acute health</td>
<td></td>
</tr>
<tr>
<td>SARA 313: 2-Butoxyethanol Reporting threshold 1.0%</td>
<td></td>
</tr>
<tr>
<td>All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory</td>
<td></td>
</tr>
</tbody>
</table>
US State Regulations
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
WHMIS (Canada) Status: controlled
WHMIS (Canada) Hazard Classification: B/3, D/1/B, D/2/B
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

<table>
<thead>
<tr>
<th>H</th>
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<tr>
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<td>May cause drowsiness or dizziness</td>
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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.