



# MATERIAL SAFETY DATA SHEET

WWW.BULLEX.COM 20 Corporate Circle • Albany, NY 12203 USA 1-888-4BULLEX • 1-518-689-2023

**BULLEX SMOKE LIQUID & BULLEX SMOKE SIMULATION FLUID**

MSDS No.:BUL001

MSDS Preparation Date: May 1, 2014

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## SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** BULLEX SMOKE LIQUID & BULLEX SMOKE SIMULATION FLUID  
**Product Use:** Smoke liquid  
**Chemical Family:** Aqueous glycol solution  
**Supplier's name and address:** BullEx, Inc.  
 20 Corporate Circle  
 Albany, NY United States  
 12203  
**24 Hr. Emergency Tel #:** (888) 428-5539  
 (31) 30-2748888

**HMIS Rating:** \*- Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe  
 Health: 1 Flammability: 0 Reactivity: 0

## SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredients        | CAS #    | EG #      | % (weight) | <u>ACGIH TLV</u> |                              |
|--------------------|----------|-----------|------------|------------------|------------------------------|
|                    |          |           |            | TWA              | STEL                         |
| Triethylene glycol | 112-27-6 | 203-953-2 | <40        | N/A              | N/A                          |
| Propylene glycol   | 57-55-6  | 200-338-0 | <40        | 10 mg/m3         | N/A                          |
| Deionized water    | N/A      | N/A       | N/A        | N/A              | 10 mg/m3<br>(aerosol)<br>N/A |

## SECTION 3 - HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

Opaque liquid. Faint odor. No special hazards exist with this product. As with any chemical substance, caution and care will prevent unnecessary accidents and safety problems. Read instructions on label before use. **HEALTH CAUTION: Smoke from this liquid, like any other common material in an aerosolized state, may be irritating to or cause allergic symptoms in some persons with allergenic sensitivity or those with other respiratory conditions. Persons with asthma or other respiratory conditions should avoid exposure to the smoke.**

### — POTENTIAL HEALTH EFFECTS —

**Target organs:** None reported by the manufacturer.  
**Routes of exposure:** *Inhalation:* YES *Skin Absorption:* NO *Skin & Eyes:* YES *Ingestion:* YES  
**Potential acute health effects:**  
*Eyes:* May cause mild transient irritation.  
*Skin:* May cause irritation.

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*Inhalation:* Can cause irritation of the respiratory tract. Persons suffering from asthma or reactive airway disorders may experience asthma-like effects from exposure to this material.

*Ingestion:* Not an expected route of entry. Ingestion of large amounts may cause nausea, vomiting, diarrhea, as well as depression of the central nervous system.

**Potential chronic health effects:** None reported by the manufacturer.

**Medical conditions aggravated by overexposure:** Pre-existing skin and respiratory disorders.

**Additional health hazards:** None reported by the manufacturer.

**Potential environmental effects:** None reported by the manufacturer.

**SECTION 4 - FIRST AID MEASURES**

**Inhalation:** Inhalation problems are not anticipated in light smoke conditions for those without respiratory conditions. Remove exposed person to fresh air if adverse effects, such as breathing difficulty, arise. If irritation persists, seek prompt medical attention. Use respiratory protection for prolonged or dense smoke conditions.

**Skin contact:** Flush skin with large amounts of water. Wash affected areas with soap and water. Remove and wash contaminated clothing before re-use. Obtain medical attention if symptoms develop and persist.

**Eye contact:** If in eyes, rinse with water for 15 minutes. Lift upper and lower lids during flushing to ensure complete removal of chemical. If irritation persists, seek prompt medical attention.

**Ingestion:** Ingestion of large amounts may be harmful. Keep at rest. Seek immediate medical attention/advice.

**Notes For Physician:** Low degree of toxicity. Treat symptomatically.

**SECTION 5 - FIRE FIGHTING MEASURES**

**Fire hazards/conditions of flammability:** Not flammable under normal conditions of handling.

**Flammability classification (OSHA 29 CFR 1910.1200):** Not flammable.

**Flash point:** Not available.

**Flash point Method:** Not available.

**Auto-ignition temperature:** Not available.

**Lower flammable limit (% by vol.):** Not available. **Upper flammable limit (% by vol.):** Not available.

**Suitable extinguishing media:** Extinguishing media - large fires: Non-flammable aqueous liquid, all-purpose foam  
Extinguishing media - small fires: Carbon dioxide (CO<sub>2</sub>), Dry chemical.

**Explosion data: Sensitivity to mechanical impact / static discharge:**

Not expected to be sensitive to mechanical impact or static discharge.

**Special fire-fighting procedures/equipment:** None reported by the manufacturer.

**Hazardous combustion products:** Oxides of carbon.

**Oxidizing properties:** None known or reported by the manufacturer.

**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

**Personal precautions:** Wear suitable protective clothing (see Section 8).

**Environmental precautions:** No special environmental precautions required.

**Spill response/cleanup:** Restrict access to area until completion of clean-up. Recover free liquid or cover with inert absorbent material and place into appropriate container for disposal. Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

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**Containment:** Recover free liquid or cover with inert absorbent material and place into appropriate container for disposal. Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

**SECTION 7 - HANDLING AND STORAGE**

**Safe Handling procedures:** Do not ingest. Do not inhale aerosol. Avoid contact with skin and eyes. Keep containers tightly closed when not in use. Use with adequate ventilation. Avoid breathing vapors.

**Storage requirements:** Store in a cool, dry, well-ventilated area. Inspect periodically for damage or leaks. Do not store near any incompatible materials (see Section 10). Do not freeze. Keep container tightly closed when not in use.

**Incompatible materials:** Strong oxidizing agents and acids.

**Special packaging materials:** Liquid-proof glass, plastic or non-corrodible metal containers are recommended.

**SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION**

**Ventilation and engineering measures:** General mechanical ventilation is sufficient for use with this product.

**Respiratory protection:** None required under normal smoke conditions. Use respiratory protection for prolonged or dense smoke conditions, such as for fire or emergency training exercises.

**Skin protection:** None required under normal conditions. Gloves of natural rubber or polyvinyl chloride-coated gloves are recommended.

**Eye / face protection:** None required under normal conditions. If splashing might occur, wear eye protection such as safety glasses with side shields.

**Other protective equipment:** Emergency showers and eyewash facilities should be nearby.

**General hygiene considerations:** Wash hands before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

|   |   |  |                      |
|---|---|--|----------------------|
| <b>Physical state:</b>                                    | Liquid.                                       | <b>Appearance:</b>                             | Opaque liquid.       |
| <b>Odor:</b>  | Faint odor.                                   | <b>Odor threshold:</b>                         | Not available.       |
| <b>pH:</b>  | 7.0 (approximately)                           |  |                      |
| <b>Boiling point:</b>                                     | >100 °C                                       | <b>Specific gravity:</b>                       | 1.05 (approximately) |
| <b>Melting/Freezing point:</b>                            | Not available.                                | <b>Coefficient of water/oil distribution:</b>  | Not available.       |
| <b>Vapor pressure (mmHg @ 20° C / 68° F):</b>             | 8.4 (approximately)                           | <b>Solubility in water:</b>                    | soluble              |
| <b>Vapor density (Air = 1):</b>                           | 2.9   | <b>Evaporation rate (n-Butyl acetate = 1):</b> | 0.01                 |
| <b>Volatile organic Compounds (VOC's) (lbs/gal; g/l):</b> | Not available.                                | <b>Volatiles (% by weight):</b>                | Not available.       |
| <b>Viscosity:</b>   | Not available.                                |  |                      |
| <b>Special Remarks</b>                                    |   |  |                      |
| <b>On Fire Hazards:</b>                                   | Not flammable under normal conditions of use. |  |                      |

**SECTION 10 - REACTIVITY AND STABILITY DATA**

**Stability and reactivity:** Stable under normal conditions.

**Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Combination with strong oxidizers and/or acids may cause explosive decomposition.

**Materials To Avoid And Incompatibility:** Strong oxidizing agents and acids.

**Hazardous decomposition products:** None.

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**SECTION 11 - TOXICOLOGICAL INFORMATION**

| <b>Ingredients</b> | <b>LC<sub>50</sub>(4hr)<br/>inh, rat</b> | <b>LD<sub>50</sub></b>    |                       |
|--------------------|--|---------------------------|-----------------------|
|                    |  | <b>oral</b>               | <b>dermal</b>         |
| Triethylene glycol | N/Av                                     | >5,000 mg/kg (rat)        | >5,000 mg/kg (rabbit) |
| Propylene glycol   | N/Av                                     | 21,000–33,700 mg/kg (rat) | 20,800 mg/kg (rabbit) |
| Deionized water    | N/Av                                     | >90 mL/kg (rat)           | N/Av                  |

|                                   |   |
|-----------------------------------|---|
| <b>Toxicological data:</b>        | Low order of toxicity for normal industrial handling.   |
| <b>Carcinogenic status:</b>       | No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.                            |
| <b>Reproductive effects:</b>      | Not expected to have other reproductive effects.  |
| <b>Teratogenicity:</b>            | Not expected to be a teratogen.   |
| <b>Mutagenicity:</b>              | Not expected to be mutagenic in humans.   |
| <b>Reproductive Effects:</b>      | Not expected to have other reproductive effects.  |
| <b>Irritancy:</b>                 | Direct contact may cause mild eye irritation. Possible inhalation irritant. Irritating to skin. |
| <b>Sensitization to material:</b> | Not expected to be a sensitizer.  |
| <b>Synergistic materials:</b>     | None reported by the manufacturer.  |



**SECTION 12 - ECOLOGICAL INFORMATION**
**Ecotoxicity from the components.**

|   |  |
|---|--|
| <b>Product information</b>                      | 2,2'-(Ethylenedioxy)diethanol, CAS# 112-27-6.  |
| <b>EC<sub>50</sub> (daphnia magna, 48 hrs):</b> | >1.000 mg/l (Big water flea).  |
| <b>LC<sub>50</sub> (fish, 96 hrs):</b>          | >1.000 mg/l.   |
| <b>Product information:</b>                     | Propane-1,2-diol, CAS# 57-55-6.  |
| <b>EC<sub>50</sub> (daphnia magna, 48 hrs):</b> | >30.000 mg/l.  |
| <b>LC<sub>50</sub> (fish, 96 hrs):</b>          | >1.000 mg/l.   |
| <b>Environmental effects:</b>                   | None known or reported by the manufacturer. However, it is recommended not to allow the material to enter the environment. |
| <b>Mobility:</b>                                | Entirely soluble in water.   |
| <b>Bioaccumulation:</b>                         | Gives almost no bioaccumulation.   |

**SECTION 13 - DISPOSAL CONSIDERATIONS**

|                               |  |
|-------------------------------|--|
| <b>Handling for Disposal:</b> | See Section 7 (Handling and Storage) section for further details.  |
| <b>Methods of Disposal:</b>   | Contact waste disposal services. Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules. |

**SECTION 14 - TRANSPORTATION INFORMATION**

| <b>Regulatory Information</b> | <b>UN Number</b> | <b>Shipping Name</b> | <b>Class</b>  | <b>Packing Group</b> | <b>Label</b>  |
|-------------------------------|------------------|----------------------|---------------|----------------------|---|
| TDG                           | None             | Not regulated        | Not regulated | None                 |  |
| 49CFR/DOT                     | None             | Not regulated        | Not regulated | None                 |  |



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|           |      |               |               |      |  |
|-----------|------|---------------|---------------|------|--|
| ICAO/IATA | None | Not regulated | Not regulated | None |  |
| IMDG      | None | Not regulated | Not regulated | None |  |

## SECTION 15 - REGULATORY INFORMATION NONE

### US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.  
 SARA Section 313: This material is not subject to SARA notification requirements, since it does not contain any Toxic Chemical Constituents above de minimus concentrations.

### US State Right to Know Laws:

California Proposition 65: To the best of our knowledge, this product does not contain any chemicals known to the State of California to cause cancer or reproductive harm.

### Canadian Regulations:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).  
 Canadian WHMIS Classification: Not regulated.

## SECTION 16 - OTHER INFORMATION

### Legend:

ACGIH: American Conference of Governmental Industrial Hygienists  
 IARC: International Agency for Research on Cancer  
 N/Ap: not applicable  
 N/Av: not available  
 NIOSH: National Institute of Occupational Safety and Health  
 NTP: National Toxicology Program  
 OSHA: Occupational Safety and Health Administration

### References:

Information obtained from sources including original supplier's Material Safety Data Sheet, and references including RTECS and CCOHS Cheminfo.

### DISCLAIMER OF LIABILITY

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