

## **Safety Data Sheet**

Version 1.0

Revision Date 1/28/2021

### **1. PRODUCT AND COMPANY IDENTIFICATION**

Product name: Blocking Solution  
Product number: BLK1 (2X concentrate)  
Company: Lucidant Polymers, LLC  
1230 Bordeaux Dr.  
Sunnyvale, CA 94089-1202  
Telephone: 408-747-5201  
Fax: 408-747-5202  
Emergency Phone #: 408-569-8607

### **2. HAZARDS IDENTIFICATION**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, the product is a dilute solution of the chemical in water.

|  |                    |
|--|--------------------|
| Flammable liquids                                | Category 4         |
| Acute oral toxicity                              | Category 4         |
| Acute dermal toxicity                            | Category 4         |
| Acute Inhalation Toxicity - Vapors               | Category 4         |
| Skin Corrosion/irritation                        | Category 1 B       |
| Serious Eye Damage/Eye Irritation                | Category 1         |
| Specific target organ toxicity (single exposure) | Category 3         |
| Target Organs -                                  | Respiratory system |

Harmful if inhaled

Precautionary Statements

Prevention

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Wear protective gloves/protective clothing/eye protection/face protection

Use only outdoors or in a well-ventilated area

Do not breathe dust/fume/gas/mist/vapors/spray

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Keep cool

Response

Immediately call a POISON CENTER or doctor/physician

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

Wash contaminated clothing before reuse

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing

Ingestion

Rinse mouth

Do NOT induce vomiting

Fire

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Harmful to aquatic life with long lasting effects

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms: ethanolamine, 2-Aminoethanol, monoethanolamine (aqueous solution, 0.6%)

Formula: C<sub>2</sub>H<sub>7</sub>NO

Molecular Weight: 61.08 g/mol

### **4. FIRST AID MEASURES**

General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Keep eye wide open while rinsing.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use. Call a physician immediately.

Inhalation

Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove from exposure, lie down. Call a physician immediately. If not breathing, give artificial respiration.

Ingestion

Do not induce vomiting. Never give anything by mouth to an unconscious person. Clean mouth with water. Call a physician immediately.

Most important symptoms and effects

Breathing difficulties.

Causes burns by all exposure routes.

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Notes to Physician: Treat symptomatically

### **5. FIRE-FIGHTING MEASURES**

Suitable Extinguishing Media

CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam. Cool closed containers exposed to fire with water spray.

Unsuitable Extinguishing Media

No information available

Flash Point: 92 °C / 197.6 °F

Autoignition Temperature: 450°C / 842°F

Explosion Limits

Upper 23.5% @ 140°C

Lower 3.0% @140°C

Sensitivity to Mechanical Impact: No information available

Sensitivity to Static Discharge: No information available

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Combustible material. Containers may explode when heated.

Hazardous Combustion Products

Carbon monoxide (CO) Carbon dioxide (CO<sub>2</sub>) Nitrogen oxides (NO<sub>x</sub>) Thermal decomposition can lead to release of irritating gases and vapors

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

## **6. ACCIDENTAL RELEASE MEASURES**

Personal Precautions

Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions

Should not be released into the environment. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information. Avoid release to the environment. Collect spillage.

Methods for Containment and Clean Up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

Remove all sources of ignition.

Health 3

Flammability 2

Instability 1

Physical hazards N/A

## **7. HANDLING AND STORAGE**

Handling

Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Do not ingest. Do not breathe vapors or spray mist. Keep away from open flames, hot surfaces and sources of ignition.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area.

Keep away from heat and sources of ignition. Store under an inert atmosphere.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Contains no substances with occupational exposure limit values.

### **Personal protective equipment**

#### **Respiratory protection**

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### **Hand protection**

Handle with gloves.

#### **Eye protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### **Skin and body protection**

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

#### **Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

|                                  |                            |
|----------------------------------|----------------------------|
| Physical State                   | Liquid                     |
| Appearance                       | Colorless                  |
| Odor                             | Fishy                      |
| Odor Threshold                   | No information available   |
| pH                               | 12 @ 20°C 20 g/l aq. sol   |
| Melting Point/Range              | 10 °C / 50 °F              |
| Boiling Point/Range              | 170 °C / 338 °F @ 760 mmHg |
| Flash Point                      | 92 °C / 197.6 °F           |
| Evaporation Rate                 | > 1 (Butyl Acetate = 1.0)  |
| Flammability (solid, gas)        | Not applicable             |
| Flammability or explosive limits |                            |
| Upper 23.5% @ 140°C              |                            |
| Lower 3.0% @140°C                |                            |
| Engineering Measures             |                            |

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment**

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Tightly fitting safety goggles. Face-shield.

**Skin and body protection**

Wear impervious gloves and/or clothing if needed to prevent contact with the material.

**Respiratory Protection**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

Vapor Pressure 0.48 mmHg @ 20°C

Vapor Density 2.1 (Air = 1.0)

Specific Gravity 1.012

Solubility miscible in water

Partition coefficient; n-octanol/water No data available

Autoignition Temperature 450 °C / 842 °F

Decomposition Temperature No information available

Viscosity 24 cP at 20°C

Molecular Formula C<sub>2</sub>H<sub>7</sub>NO

Molecular Weight 61.08 g/mol

**10. STABILITY AND REACTIVITY**

Reactive Hazard None known, based on information available

Stability Hygroscopic. Air sensitive.

**Conditions to Avoid**

Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.

Exposure to air. Exposure to moist air or water.

Incompatible Materials Strong oxidizing agents

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Thermal decomposition can lead to release of irritating gases and vapors

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

**11. TOXICOLOGICAL INFORMATION****Acute Toxicity****Product Information****Component Information**

| Component    | LD50 Oral        | LD50 Dermal         | LC50 Inhalation |
|--------------|------------------|---------------------|-----------------|
| Ethanolamine | 1720 mg/kg (rat) | 1000 mg/kg (rabbit) | Not listed      |

1 mL/kg ( Rabbit )

## Toxicologically Synergistic Products

No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure.

Irritation Causes burns by all exposure routes

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component    | CAS-No   | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|--------------|----------|------------|------------|------------|------------|------------|
| Ethanolamine | 141-43-5 | Not listed | Not listed | Not listed | Not listed | Not listed |

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Respiratory system

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects, both acute and delayed

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting:

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

**12. ECOLOGICAL INFORMATION**

## Ecotoxicity

Do not empty into drains. Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

| Component    | Freshwater algae  | Freshwater fish   | Microtox  | Water flea        |
|--------------|-------------------|---|---|-------------------|
| Ethanolamine | EC50: 15 mg/L/72h | Leusiscus idus: LC50: >200mg/L/48h<br>Salmo gairdneri: LC50: 150 mg/L/96h | Pseudomonas putida: EC50: 110 mg/L/17 h<br>Nitrosomonas: EC50: 12200 mg/L/2 h<br>Photobacterium phosphoreum: EC50: 13.7 mg/L/30 min | EC50: 65 mg/L/48h |

## Persistence and Degradability

Soluble in water Persistence is unlikely based on information available. Miscible with water

Bioaccumulation/ Accumulation No information available.

Mobility . Will likely be mobile in the environment due to its water solubility.

|           |         |
|-----------|---------|
| Component | Log Pow |
|-----------|---------|

|              |       |
|--------------|-------|
| Ethanolamine | -1.91 |
|--------------|-------|

**13. DISPOSAL CONSIDERATIONS**

## Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

**14. TRANSPORT INFORMATION**

## DOT

UN-No UN2491

Proper Shipping Name ETHANOLAMINE

Hazard Class 8

Packing Group III

## TDG

UN-No UN2491

Proper Shipping Name ETHANOLAMINE

Hazard Class 8

Packing Group III

## IATA

UN-No UN2491

Proper Shipping Name ETHANOLAMINE

Hazard Class 8

Packing Group III

## IMDG/IMO

UN-No UN2491

Proper Shipping Name ETHANOLAMINE

Hazard Class 8

Packing Group III

**15. REGULATORY INFORMATION**

All of the components in the product are on the following Inventory lists: X = listed

## International Inventories

| Component    | TSCA | DSL | NDSL | EINECS    | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|--------------|------|-----|------|-----------|--------|-----|-------|------|------|-------|------|
| Ethanolamine | X    | X   | -    | 205-483-3 | -      |     | X     | X    | X    | X     | X    |

## Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base

Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants

that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

| Component    | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|--------------|---------------|------------|--------------|----------|--------------|
| Ethanolamine | X             | X          | X            | X        | X            |

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade Slight risk, Grade 1

## 16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide.

The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Lucidant LLC, shall not be held liable for any damage resulting from handling or from contact with the above product.