SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Ethylene Glycol
Product code: 601015XX

Recommended use of the chemical and restrictions on use
Recommended use: Industrial chemical

Manufacturer or supplier's details
Company: Star brite
Address: 4041 SW 47th Avenue
          Fort Lauderdale, FL 33314
          United States of America

Emergency telephone number:
US: 1-800-424-9300
International: (703) 527-3887 (CHEMTREC)

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Acute toxicity (Oral): Category 4
Specific target organ toxicity - repeated exposure: Category 2 (Kidney)

GHS label elements
Hazard pictograms:

Signal word: Warning
Hazard statements: H302 Harmful if swallowed.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements: Prevention:
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P314 Get medical advice/ attention if you feel unwell.
Safety Data Sheet
Ethylene Glycol

Version 1.10 Revision Date: 09/11/2018

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

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture: Substance

Hazardous components

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Chemical name</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-21-1</td>
<td>Ethylene glycol</td>
<td>90 - 100</td>
</tr>
<tr>
<td>111-46-6</td>
<td>Diethylene glycol</td>
<td>0 - 5</td>
</tr>
</tbody>
</table>

Any Concentration shown as a range is due to batch variation.

Synonyms: Ethylene glycol Industrial/Ethylene glycol Meglobal/Glycol/Solv Ethylene glycol,

SECTION 4. FIRST AID MEASURES

General advice: Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.

If inhaled: If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of skin contact: Wash off with soap and water. Wash clothing before reuse. If skin irritation persists, call a physician.

In case of eye contact: Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed: Do not induce vomiting without medical advice. Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5. FIREFIGHTING MEASURES
Suitable extinguishing media : Foam
Dry chemical
Carbon dioxide (CO2)

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Carbon oxides
toxic fumes

Further information : Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Advice on safe handling : Do not breathe vapours/dust.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Electrical installations / working materials must comply with the technological safety standards.
SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Components</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-21-1</td>
<td>Ethylene glycol</td>
<td>C</td>
<td>50 ppm 125 mg/m³</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>100 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C (Aerosol only)</td>
<td>100 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>111-46-6</td>
<td>Diethylene glycol</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>US WEEL</td>
</tr>
</tbody>
</table>

Personal protective equipment

Respiratory protection: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection: Eye wash bottle with pure water
Tightly fitting safety goggles

Skin and body protection: Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures: When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: liquid

Colour: Clear, Colorless

Odour: sweet, slight

Odour Threshold: No data available
**Safety Data Sheet**  
**Ethylene Glycol**

**Version 1.10**  
**Revision Date: 09/11/2018**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>9</td>
</tr>
<tr>
<td>Freezing Point (Melting point/freezing point)</td>
<td>-13 - -11.2 °C (9 - 11.8 °F)</td>
</tr>
<tr>
<td>Boiling Point (Boiling point/boiling range)</td>
<td>197.4 °C (387.3 °F)</td>
</tr>
</tbody>
</table>
| Flash point                           | 111 °C (232 °F)  
Method: closed cup |
| Evaporation rate                      | 0.01  (Butyl Acetate = 1) |
| Flammability (solid, gas)             | No data available |
| Upper explosion limit                 | 22 % (V) |
| Lower explosion limit                 | 1.8 % (V) |
| Vapour pressure                       | < 1 hPa @ 20 - 25 °C (68 - 77 °F) |
| Relative vapour density               | < 2.14 @ 20 - 25 °C (68 - 77 °F)  
(Air = 1.0) |
| Relative density                      | 1.115 @ 20 °C (68 °F)  
Reference substance: (water = 1) |
| Density                               | 1.11 g/cm³ @ 20 °C (68 °F) |
| Solubility (ies)                      | soluble |
| Water solubility                      |       |
| Solubility in other solvents          | No data available |
| Partition coefficient: n-octanol/water| log Pow: -1.36 |
| Auto-ignition temperature             | 398 °C |
| Thermal decomposition                 | No data available |
| Viscosity                             |       |
| Viscosity, dynamic                    | 19.83 - 21 mPa.s @ 20 - 25 °C (68 - 77 °F) |
| Viscosity, kinematic                  | 145 mm²/s @ 25 °C (77 °F) |

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity: No dangerous reaction known under conditions of normal use.
Safety Data Sheet
Ethylene Glycol

Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions: No hazards to be specially mentioned.
Conditions to avoid: Keep away from heat, flame, sparks and other ignition sources.
Incompatible materials:
- Strong bases
- Strong oxidizing agents
- Strong acids
- Aldehydes
- Aluminium
- Plastics
- Reducing agents
- Peroxides

Hazardous decomposition products:
- Aldehydes
- Ketones
- Organic acids
- Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:
Acute oral toxicity: Acute toxicity estimate: 493.91 mg/kg

Components:
107-21-1:
Acute oral toxicity: Assessment: The component/mixture is moderately toxic after single ingestion.

111-46-6:
Acute oral toxicity: LD50 (Human): Calculated 1,120 mg/kg
Assessment: The component/mixture is moderately toxic after single ingestion.

Carcinogenicity

IARC
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen.
STOT - repeated exposure

Components:

107-21-1:
Target Organs: Kidney
Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Further information

Product:
Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects

Product:

Ozone-Depletion Potential: Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information: No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Contaminated packaging: Empty remaining contents. Dispose of as unused product.
SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation):
UN3082, Environmentally hazardous substances, liquid, n.o.s., (ETHYLENE GLYCOL), 9, III

IATA (International Air Transport Association): Not regulated as a dangerous good

IMDG-Code: Not regulated as a dangerous good

Special Notes: This material is shipped as a Class 9, Packing Group III when each package meets or exceeds the reportable quantity, otherwise it may be shipped as not regulated.

SECTION 15. REGULATORY INFORMATION

WHMIS Classification: Not controlled.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1</td>
<td>5000</td>
<td>5000</td>
</tr>
<tr>
<td>1,4-Dioxane</td>
<td>123-91-1</td>
<td>100</td>
<td>*</td>
</tr>
</tbody>
</table>

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards:
- Acute toxicity (any route of exposure)
- Specific target organ toxicity (single or repeated exposure)

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313: The following components are subject to reporting levels established by SARA Title III, Section 313:

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-21-1</td>
<td>Ethylene glycol</td>
</tr>
</tbody>
</table>

Clean Air Act
The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

107-21-1 Ethylene glycol

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

- 107-21-1 Ethylene glycol
- 111-46-6 Diethylene glycol

**Clean Water Act**

The following Hazardous Substances are listed under the U.S. Clean Water Act, Section 311, Table 116.4A:

- 75-07-0 Acetaldehyde

The following Hazardous Chemicals are listed under the U.S. Clean Water Act, Section 311, Table 117.3:

- 75-07-0 Acetaldehyde

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

**Massachusetts Right To Know**

- 107-21-1 Ethylene glycol
- 123-91-1 1,4-Dioxane
- 75-07-0 Acetaldehyde

**Pennsylvania Right To Know**

- 107-21-1 Ethylene glycol
- 111-46-6 Diethylene glycol
- 123-91-1 1,4-Dioxane
- 75-07-0 Acetaldehyde

**California Prop 65**

⚠️ **WARNING:** This product can expose you to chemicals including 1,4-Dioxane, Acetaldehyde, which is/are known to the State of California to cause cancer, and Ethylene glycol, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

**The components of this product are reported in the following inventories:**

- **TSCA** : On TSCA Inventory
- **DSL** : All components of this product are on the Canadian DSL
- **AICS** : On the inventory, or in compliance with the inventory
- **NZIoC** : On the inventory, or in compliance with the inventory
- **ENCS** : On the inventory, or in compliance with the inventory
- **KECI** : On the inventory, or in compliance with the inventory
- **PHIL** : On the inventory, or in compliance with the inventory
- **IECSC** : On the inventory, or in compliance with the inventory
The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration 50%</td>
</tr>
<tr>
<td>EGEST</td>
<td>EOSCA Generic Exposure Scenario Tool</td>
</tr>
<tr>
<td>EOSCA</td>
<td>European Oilfield Specialty Chemicals Association</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
</tr>
<tr>
<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
</tr>
<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>IECSC</td>
<td>Inventory of Existing Chemical Substances in China</td>
</tr>
<tr>
<td>ENCS</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
</tr>
<tr>
<td>KECI</td>
<td>Korea, Existing Chemical Inventory</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
</tr>
<tr>
<td>NOAEL</td>
<td>No Observable Adverse Effect Level</td>
</tr>
<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Administration</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>PICCS</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>PRNT</td>
<td>Presumed Not Toxic</td>
</tr>
<tr>
<td>RCRA</td>
<td>Resource Conservation Recovery Act</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-term Exposure Limit</td>
</tr>
<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
<tr>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
</tr>
<tr>
<td>UVCB</td>
<td>Unknown or Variable Composition, Complex Reaction Products, and Biological Materials</td>
</tr>
<tr>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
</tr>
<tr>
<td>&gt;=</td>
<td>Greater Than or Equal To</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less Than or Equal To</td>
</tr>
</tbody>
</table>