This safety data sheet complies with the requirements of:

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Code A183
Product Name TP-95®
Synonyms Bis(2-(2-Butoxyethoxy)Ethyl Adipate

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Industrial

1.3. Details of the supplier of the safety data sheet

Manufacturer
The HallStar Company
120 S. Riverside Plaza, Suite 1620
Chicago, IL 60606 USA
PH: 877-427-4255

For further information, please contact

1.4. Emergency telephone number

Emergency Telephone Chemtrec 1-800-424-9300

Europe +1 (703) 527 3887

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008
This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

Product identifier
This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.3. Other hazards

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC No</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Classification according to Regulation (EC)</th>
<th>REACH Registration No</th>
</tr>
</thead>
</table>
Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation  Remove to fresh air.

Skin contact  Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Eye contact  Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Ingestion  Clean mouth with water and drink afterwards plenty of water.

4.2. Most important symptoms and effects, both acute and delayed

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media  Dry chemical, CO2, water spray or regular foam.

5.2. Special hazards arising from the substance or mixture

No information available

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions  Ensure adequate ventilation, especially in confined areas.

For emergency responders  Use personal protection recommended in Section 8.

6.2. Environmental precautions

Collect spillage.

6.3. Methods and material for containment and cleaning up

Methods for containment  Steps to be Taken in Case Material is Released or Spilled: Dike and contain the spill with inert material (ie: sand, earth,sawdust) and transfer liquid and solid diking material to separate containers for recovery or disposal. Wash floor area with hotwater solution. Remove contaminated clothing and wash before reuse. Wash affected skin areas with soap and water. Keepspills out of all sewers and bodies of water.
Methods for cleaning up
Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections
See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling
Advice on safe handling
Ensure adequate ventilation, especially in confined areas.

General Hygiene Considerations
Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities
Storage Conditions
Keep container tightly closed in a dry and well-ventilated place.

Incompatible materials
Strong oxidizing agents.

7.3. Specific end use(s)
Risk Management Methods (RMM)
The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>European Union</th>
<th>United Kingdom</th>
<th>France</th>
<th>Spain</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycol Ether</td>
<td>TWA: 10 ppm</td>
<td>TWA: 67.5 mg/m³</td>
<td>TWA: 10 ppm</td>
<td>TWA: 67.5 mg/m³</td>
<td>TWA: 10 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA: 10 ppm</td>
<td>TWA: 67.5 mg/m³</td>
<td>TWA: 10 ppm</td>
<td>TWA: 67.5 mg/m³</td>
<td>TWA: 67 mg/m³</td>
</tr>
<tr>
<td></td>
<td>STEL: 15 ppm</td>
<td>STEL: 101.2 mg/m³</td>
<td>STEL: 15 ppm</td>
<td>STEL: 101.2 mg/m³</td>
<td>STEL: 101.2 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Italy</th>
<th>Portugal</th>
<th>Netherlands</th>
<th>Finland</th>
<th>Denmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycol Ether</td>
<td>TWA: 10 ppm</td>
<td>TWA: 67.5 mg/m³</td>
<td>TWA: 50 mg/m³</td>
<td>TWA: 10 ppm</td>
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</tr>
<tr>
<td></td>
<td>STEL: 15 ppm</td>
<td>STEL: 101.2 mg/m³</td>
<td>STEL: 100 mg/m³</td>
<td>TWA: 68 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STEL: 101.2 mg/m³</td>
<td>STEL: 100 mg/m³</td>
<td>STEL: 100 mg/m³</td>
<td>TWA: 68 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Austria</th>
<th>Switzerland</th>
<th>Poland</th>
<th>Norway</th>
<th>Ireland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycol Ether</td>
<td>TWA: 10 ppm</td>
<td>TWA: 67.5 mg/m³</td>
<td>STEL: 100 mg/m³</td>
<td>TWA: 10 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STEL: 15 ppm</td>
<td>STEL: 101 mg/m³</td>
<td>STEL: 102 mg/m³</td>
<td>TWA: 67.5 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Derived No Effect Level (DNEL)
No information available.

Predicted No Effect Concentration (PNEC)
No information available.

8.2. Exposure controls

Engineering Controls
Ensure adequate ventilation, especially in confined areas.

Personal protective equipment
Eye/face protection
Wear safety glasses with side shields (or goggles).

Skin and body protection
Suitable protective clothing.

Environmental exposure controls
No information available.
Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks  • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
<td>No information available</td>
</tr>
<tr>
<td>Appearance</td>
<td>amber liquid</td>
<td>No information available</td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>slight odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>180 °C</td>
<td>Cleveland Open Cup</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>1.01</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partition coefficient</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9.2. Other information

Density                         No information available
VOC Content (%)                  No information available
Density                         No information available
Volatile                        No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reacts with strong oxidizers. No data available.

10.2. Chemical stability

Stable under normal conditions.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

10.3. Possibility of hazardous reactions

Possibility of Hazardous Reactions
None under normal processing.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

None under normal use conditions.
Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information
Product does not present an acute toxicity hazard based on known or supplied information.

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>No data available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>No data available.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>No data available.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

Unknown acute toxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dibutoxyethoxyethyl Adipate</td>
<td>6 g/kg (Rat)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycol Ether</td>
<td>5660 mg/kg (Rat)</td>
<td>2700 mg/kg (Rabbit)</td>
<td></td>
</tr>
</tbody>
</table>

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycol Ether</td>
<td>100: 96 h Desmodesmus subspicatus mg/L EC50</td>
<td>1300: 96 h Lepomis macrochirus mg/L LC50 static</td>
<td>100: 48 h Daphnia magna mg/L EC50 2850: 24 h Daphnia magna mg/L EC50</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

Mobility in soil
No information available.

12.5. Results of PBT and vPvB assessment

No information available.
12.6. Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging
Improper disposal or reuse of this container may be dangerous and illegal.

Section 14: TRANSPORT INFORMATION

IMDG
14.1 UN/ID No. Not regulated
14.2 Proper shipping name Not regulated
14.3 Hazard Class Not regulated
14.4 Packing Group Not regulated
14.5 Marine pollutant Not applicable
14.6 Special Provisions None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
No information available

RID
14.1 UN/ID No. Not regulated
14.2 Proper shipping name Not regulated
14.3 Hazard Class Not regulated
14.4 Packing Group Not regulated
14.5 Environmental hazard Not applicable
14.6 Special Provisions None

ADR
14.1 UN/ID No. Not regulated
14.2 Proper shipping name Not regulated
14.3 Hazard Class Not regulated
14.4 Packing Group Not regulated
14.5 Environmental hazard Not applicable
14.6 Special Provisions None

IATA
14.1 UN/ID No. Not regulated
14.2 Proper shipping name Not regulated
14.3 Hazard Class Not regulated
14.4 Packing Group Not regulated
14.5 Environmental hazard Not applicable
14.6 Special Provisions None

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>French RG number</th>
<th>Title</th>
</tr>
</thead>
</table>

Page 6 / 7
European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Authorizations and/or restrictions on use:
This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Restricted substance per REACH Annex XVII</th>
<th>Substance subject to authorization per REACH Annex XIV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycol Ether</td>
<td>Use restricted. See item 55.</td>
<td></td>
</tr>
</tbody>
</table>

Persistent Organic Pollutants
Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009 Not applicable

International Inventories

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

No information available

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend
SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION
TWA  TWA (time-weighted average)  STEL  STEL (Short Term Exposure Limit)
Ceiling  Maximum limit value  *  Skin designation

Prepared By AAC
Issue Date 08-May-2015
Revision Date 14-Nov-2018
Revision Note Not applicable.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

End of Safety Data Sheet