1. Product and company identification

Product identifier
Trade name: Infusioncoat 1A

Relevant identified uses of the substance or mixture and uses advised against
General use: Epoxy resin-coating agent.
Reserved for industrial and professional use.

Details of the supplier of the safety data sheet
Company name: Airtech International, Inc.
Street/POB-No.: 5700 Skylab Road
Postal Code, city: US Huntington Beach, CA 92647
E-mail: airtech@airtechintl.com
Telephone: +1 714.899.8100
Telefax: +1 714.899.8179
Dept. responsible for information:
Telephone: +1 714.899.8100
E-mail: airtech@airtechintl.com

Additional information:
Airtech Europe Sarl
Zone industrielle Haneboesch
L – 4562 Differdange
Luxembourg
E-mail: sales@airtech.lu
Website: www.airtech.lu
Telephone: +352 582.282

Tygavac Advanced Materials Ltd.
The Causeway
Broadway Business Park
Chadderton, Oldham
OL9 9XD United Kingdom
E-mail: sales@tygavac.co.uk
Website: www.tygavac.co.uk
Telephone: +44 161.947.1610

Airtech Asia Ltd. Ltd.
888 Airtech Avenue
Huangtai Industrial Development Center
Xiaozhan Country, Jinnan District
Tianjin, China 300353
E-mail: airtechasia@airtechintl.com
Website: www.airtech.asia
Telephone: +86 22.8622.9800

Emergency phone number
CHEMTREC EMERGENCY PHONE:
Within USA/Canada: 1-(800)424-9300
International: +1 703-741-5970
2. Hazards identification

Emergency overview

Appearance: Form: pasty
Color: black

Odor: characteristic

Classification:
- Skin Irritation - Category 2
- Eye Irritation - Category 2A
- Sensitization - skin - Category 1
- Aquatic toxicity - chronic - Category 2

Hazard symbols:

Signal word: Warning

Hazard statements:
- Causes skin irritation.
- May cause an allergic skin reaction.
- Causes serious eye irritation.
- Toxic to aquatic life with long lasting effects.

Precautionary statements:
- Avoid breathing vapors/spray.
- Avoid release to the environment.
- Wear protective gloves/protective clothing/eye protection.
- IF ON SKIN: Wash with plenty of water/soap.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If skin irritation or rash occurs: Get medical advice/attention.
- If eye irritation persists: Get medical advice/attention.

Regulatory status

This material is considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and SIMDUT in Canada.

Hazards not otherwise classified

Thermal decomposition can lead to the escape of irritating gases and vapors. May cause respiratory irritation. May be harmful if swallowed. Special danger of slipping by leaking/spilling product.

Contains materials regulated as dust hazards, dispersed in a non-hazardous form. If dust is recreated, appropriate respiratory and/or explosion precautions must still be used.

see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterization: Epoxy resin based mixture, < 100%.

Additional information:
Under HCS 2012, §1910.1200(i) the precise composition of the product is withheld as trade secret. A more complete disclosure can be provided to a health, or safety professional when necessary.
4. First aid measures

In case of inhalation: Move victim to fresh air, put at rest and loosen restrictive clothing. In case of breathing stop use artificial aspiration immediately. In case of breathing difficulties administer oxygen. Seek medical attention.

Following skin contact: After contact with skin, wash immediately with soap and plenty of water. Take off contaminated clothing and wash it before reuse. In case of skin irritation, consult a physician.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently seek the immediate attention of an ophthalmologist.

After swallowing: Immediately get medical attention. Do not induce vomiting without medical assistance. If person is clearly conscious, have them drink two glasses of water to dilute ingested material. Never give an unconscious person anything through the mouth.

Most important symptoms/effects, acute and delayed

In case of inhalation: Thermal decomposition can lead to the escape of irritating gases and vapors. May cause respiratory irritation.

In case of ingestion: May be harmful if swallowed.

After contact with skin: Sensitisation, irritation, redness, pain.

After eye contact: Irritation, redness, pain.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range: no data available
Auto-ignition temperature: no data available
Suitable extinguishing media: Water fog, foam, dry chemical, carbon dioxide.

Extinguishing media which must not be used for safety reasons: High power water jet.

Specific hazards arising from the chemical

This material is combustible, but will not ignite readily. Emits toxic fumes under fire conditions.

In case of fire may be liberated: Aldehyde, acids, phenols, carbon monoxide and carbon dioxide.

Formation of numerous unknown compounds is possible.

Protective equipment and precautions for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information: Seal off endangered area. Heating causes rise in pressure with risk of bursting. Cool endangered containers with water spray and, if possible, remove from danger zone. Fight fire from a safe distance. Stay upwind/keep distance from source. Use a water fog to control vapors. Do not allow fire water to penetrate into surface or ground water.
6. Accidental release measures

Personal precautions: Avoid the formation of aerosol/vapors. Avoid inhalation and contact with skin and eyes. Respiratory protection in case of aerosol or vapor formation. Wear protective equipment. Keep unprotected people away. Ensure adequate ventilation, especially in confined areas.

Environmental precautions: Do not allow to penetrate into soil, waterbodies or drains. If necessary notify appropriate authorities.

Methods for clean-up: Dam spills. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents) and place in closed containers for disposal. Wash spill area with hot water. Dispose of waste according to applicable legislation.

Additional information: Special danger of slipping by leaking/spilling product.

7. Handling and storage

Handling

Advises on safe handling: Provide adequate ventilation, and local exhaust as needed. Avoid contact with skin, eyes, and clothing. Do not breathe vapor or spray. Use suitable personal protective equipment to protect skin and eyes. Take care when re-opening already used containers. Handle and open container with care. When using do not eat, drink or smoke. Wash hands before breaks and after work.

Precautions against fire and explosion: Take standard precautions to prevent fire.

Storage

Requirements for storerooms and containers:
Keep container tightly closed in a cool, well-ventilated place. Keep away from sources of ignition. Store in a dry place. Do not drop, drag or bang the container.

Hints on joint storage: Avoid contact with strong acids, oxidizing agents and alkalis. Keep away from food and drinks.

8. Exposure controls / personal protection

Exposure guidelines

Additional information: Contains materials regulated as dust hazards, dispersed in a non-hazardous form. If dust is recreated, appropriate respiratory and/or explosion precautions must still be used.

Engineering controls

Provide adequate ventilation, and local exhaust as needed. See also information in chapter 7, section storage.

Personal protection equipment (PPE)

Eye/face protection
Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.

Skin protection
Wear closed work clothing.
Protective gloves according to EN 374.
Glove material: Nitrile rubber or neoprene.
Layer thickness (recommended): >0.5 mm.
Breakthrough time: not tested.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection:
When vapors form, use respiratory protection.
The filter class must be suitable for the maximum contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product.

General hygiene considerations:
Avoid contact with skin, eyes, and clothing. Take off contaminated clothing and wash it before reuse. Do not breathe vapor or spray. Have eye wash bottle or eye rinse ready at work place. When using do not eat, drink or smoke. Wash hands before breaks and after work.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance:
Form: pasty
Color: black

Odor:
characteristic

Odor threshold:
no data available

pH value:
no data available

Melting point/freezing point:
no data available

Initial boiling point and boiling range:
no data available

Flash point/flash point range:
no data available

Evaporation rate:
no data available

Flammability:
This material is combustible, but will not ignite readily.

Explosion limits:
no data available

Vapor pressure:
no data available

Vapor density:
no data available

Density:
no data available

Solubility:
no data available

Partition coefficient: n-octanol/water:
no data available

Auto-ignition temperature:
no data available

Thermal decomposition:
no data available

Additional information:
no data available

10. Stability and reactivity

Reactivity:
Refer to section: Possibility of hazardous reactions.

Chemical stability:
Stable under recommended storage conditions.

Possibility of hazardous reactions
Exothermic reactions with oxidizing agents, strong bases, strong acids.
Conditions to avoid: Keep away from heat.

Incompatible materials: Strong acids, bases, oxidizing agents.

Hazardous decomposition products:
- Emits toxic fumes under fire conditions.
- In case of fire may be liberated: aldehyde, acids, phenols, carbon monoxide and carbon dioxide.
- Formation of numerous unknown compounds is possible.

Thermal decomposition: no data available

11. Toxicological information

Toxicological tests

Toxicological effects:
- Acute toxicity (oral): Lack of data.
- Acute toxicity (dermal): Lack of data.
- Acute toxicity (inhalative): Lack of data.
- Skin corrosion/irritation: Skin Irritation - Category 2 = Causes skin irritation.
  The product has not been tested. The statement is derived from the properties of the single components.
- Eye damage/irritation: Eye Irritation - Category 2A = Causes serious eye irritation.
  The product has not been tested. The statement is derived from the properties of the single components.
- Sensitisation to the respiratory tract: Lack of data.
- Skin sensitisation: Sensitization - skin - Category 1 = May cause an allergic skin reaction.
  The product has not been tested. The statement is derived from the properties of the single components.
- Germ cell mutagenicity/Genotoxicity: Lack of data.
- Carcinogenicity: Lack of data.
- Reproductive toxicity: Lack of data.
- Effects on or via lactation: Lack of data.
- Specific target organ toxicity (single exposure): Lack of data.
- Specific target organ toxicity (repeated exposure): Lack of data.
- Aspiration hazard: Lack of data.

Other information:
- Pre-existing skin and respiratory conditions including dermatitis, asthma and chronic lung disease might be aggravated by exposure.
- IARC rating: Contains materials assigned to Group 3 and Group 2B.
  Under HCS 2012, §1910.1200(i) the precise composition of the product is withheld as trade secret. A more complete disclosure can be provided to a health, or safety professional when necessary.
Symptoms

In case of inhalation:
Thermal decomposition can lead to the escape of irritating gases and vapors. May cause respiratory irritation.

In case of ingestion:  May be harmful if swallowed.

After contact with skin: Sensitisation, irritation, redness, pain,

After eye contact: Irritation, redness, pain.

12. Ecological information

Ecotoxicity

Aquatic toxicity:  Toxic to aquatic life with long lasting effects.
The product has not been tested. The statement is derived from the properties of the single components.

Mobility in soil

no data available

Persistence and degradability

Further details:  no data available

Additional ecological information

General information: Do not allow to penetrate into soil, waterbodies or drains.

13. Disposal considerations

Product

Recommendation: Incinerate according to applicable local, state and federal regulations.

Contaminated packaging

Recommendation: Dispose of waste according to applicable legislation. Handle contaminated packages in the same way as the substance itself. Non-contaminated packages may be recycled. Do not remove label until container is thoroughly cleaned.

Additional information

Do not allow to penetrate into soil, waterbodies or drains.
14. Transport information

**USA: Department of Transportation (DOT)**

Identification numbers: UN3077
Proper shipping name: UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (Bisphenol epoxy resins)
DOT hazard class or division: 9
PG: III
Label codes: 9
Special provisions: 8, 146, 335, A112, B54, B120, IB8, IP3, N20, N91, T1, TP33
Packaging - Exceptions: 155
Packaging - Non-bulk: 213
Packaging - Bulk: 240
Quantity limitations - Passenger aircraft / rail: No limit
Quantity limitations - Cargo only: No limit
Vessel stowage - Location: A

**Sea transport (IMDG)**

UN number: 3077
Proper shipping name: UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Bisphenol epoxy resins)
IMDG: Class 9, Subrisk -
Packing Group: III
EmS: F-A, S-F
Special provisions: 274, 335, 966, 967, 969
Limited quantities: 5 kg
EQ: E1
Contaminated packaging - Instructions: P002, LP02
Contaminated packaging - Provisions: PP12
IBC - Instructions: IBC08
IBC - Provisions: B3
Tank instructions - IMO: -
Tank instructions - UN: T1, BK2, BK2, BK3
Tank instructions - Provisions: TP33
Stowage and handling: Category A. SW23
Properties and observations: -
Marine pollutant: Yes

**Air transport (IATA)**

UN/ID number: 3077
Proper shipping name: UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Bisphenol epoxy resins)
ICAO/IATA: Class 9
PG: III
Hazard: Miscellaneous
EQ: E1
Passenger Ltd.Qty.: Pack.Instr. Y956 - Max. Net Qty/Pkg. 30 kg G
Passenger: Pack.Instr. 956 - Max. Net Qty/Pkg. 400 kg
Cargo: Pack.Instr. 956 - Max. Net Qty/Pkg. 400 kg
Special Provisioning: A97 A158 A179 A197
ERG: 9L
15. Regulatory information

U.S. Federal Regulations

All ingredients of this product are listed on the TSCA inventory.

National regulations - EC member states

Labeling (67/548/EEC or 1999/45/EC)

Code letter and hazard symbol:

- Xi: irritant
- N: dangerous for the environment

National regulations - Great Britain

Hazchem-Code: 2Z

16. Other information

Text for labeling:

Safety data sheet available on request.

Hazard rating systems:

**NFPA Hazard Rating:**
- Health: 1 (Slight)
- Fire: 1 (Slight)
- Reactivity: 0 (Minimal)

**HMIS Version III Rating:**
- Health: 1 (Slight)
- Flammability: 1 (Slight)
- Physical Hazard: 0 (Minimal)
- Personal Protection: X = Consult your supervisor

Reason of change:
Changes in section 1: General revision

Department issuing data sheet

Contact person: see section 1: Dept. responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.
# 1. Product and company identification

**Product identifier**

<table>
<thead>
<tr>
<th>Trade name</th>
<th>Infusioncoat 1B</th>
</tr>
</thead>
</table>

**Relevant identified uses of the substance or mixture and uses advised against**

<table>
<thead>
<tr>
<th>General use</th>
<th>Curing agent.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserved for industrial and professional use.</td>
<td></td>
</tr>
</tbody>
</table>

**Details of the supplier of the safety data sheet**

<table>
<thead>
<tr>
<th>Company name</th>
<th>Airtech International, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street/POB-No.</td>
<td>5700 Skylab Road</td>
</tr>
<tr>
<td>Postal Code, city</td>
<td>US Huntington Beach, CA 92647</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:airtech@airtechintl.com">airtech@airtechintl.com</a></td>
</tr>
<tr>
<td>Telephone</td>
<td>+1 714.899.8100</td>
</tr>
<tr>
<td>Telefax</td>
<td>+1 714.899.8179</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dept. responsible for information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone: +1 714.899.8100</td>
</tr>
<tr>
<td>E-mail: <a href="mailto:airtech@airtechintl.com">airtech@airtechintl.com</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airtech Europe Sarl</td>
</tr>
<tr>
<td>Zone industrielle Haneboesch</td>
</tr>
<tr>
<td>L – 4562 Differdange</td>
</tr>
<tr>
<td>Luxembourg</td>
</tr>
<tr>
<td>E-mail: <a href="mailto:sales@airtech.lu">sales@airtech.lu</a></td>
</tr>
<tr>
<td>Website: <a href="http://www.airtech.lu">www.airtech.lu</a></td>
</tr>
<tr>
<td>Telephone: +352 582.282</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tygavac Advanced Materials Ltd.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Causeway</td>
</tr>
<tr>
<td>Broadway Business Park</td>
</tr>
<tr>
<td>Chadderton, Oldham</td>
</tr>
<tr>
<td>OL9 9XD United Kingdom</td>
</tr>
<tr>
<td>E-mail: <a href="mailto:sales@tygavac.co.uk">sales@tygavac.co.uk</a></td>
</tr>
<tr>
<td>Website: <a href="http://www.tygavac.co.uk">www.tygavac.co.uk</a></td>
</tr>
<tr>
<td>Telephone: +44 161.947.1610</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Airtech Asia Ltd. Ltd.</th>
</tr>
</thead>
<tbody>
<tr>
<td>888 Airtech Avenue</td>
</tr>
<tr>
<td>Huangtai Industrial Development Center</td>
</tr>
<tr>
<td>Xiaozhan Country, Jinnan District</td>
</tr>
<tr>
<td>Tianjin, China 300353</td>
</tr>
<tr>
<td>E-mail: <a href="mailto:airtechasia@airtechintl.com">airtechasia@airtechintl.com</a></td>
</tr>
<tr>
<td>Website: <a href="http://www.airtech.asia">www.airtech.asia</a></td>
</tr>
<tr>
<td>Telephone: +86 22.8622.9800</td>
</tr>
</tbody>
</table>

**Emergency phone number**

**CHEMTREC EMERGENCY PHONE:**
- Within USA/Canada: 1-(800)424-9300
- International: +1 703-741-5970
2. Hazards identification

Emergency overview

Appearance: Form: liquid
Color: amber
Odor: amine odor
Classification: Acute Toxicity - oral - Category 3; Skin Corrosion - Category 1A; Sensitization - skin - Category 1; Specific Target Organ Toxicity (Repeated Exposure) - Category 2; Aquatic toxicity - chronic - Category 2;

Signal word: Danger
Hazard statements:
Toxic if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause damage to organs through prolonged or repeated exposure.
Toxic to aquatic life with long lasting effects.

Precautionary statements:
Do not breathe vapors.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
Immediately call a POISON CENTER/doctor.
Store locked up.
Dispose of contents/container to hazardous or special waste collection point.

Regulatory status
This material is considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and SIMDUT in Canada.

Hazards not otherwise classified
May be harmful in contact with skin. May be harmful if inhaled. Special danger of slipping by leaking/spilling product.
see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterization: Modified amine mixture, < 100%.
Hazardous ingredients:

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Designation</th>
<th>Content</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS 28480-77-5</td>
<td>alpha-(4-Aminocyclohexyl)-p-toluidine</td>
<td>&lt; 65 %</td>
<td>Acute Toxicity - oral - Category 3.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Corrosion - Category 1B.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sensitization - skin - Category 1.</td>
</tr>
</tbody>
</table>

Additional information: Under HCS 2012, §1910.1200(i) the precise composition of the product is withheld as trade secret. A more complete disclosure can be provided to a health, or safety professional when necessary.
4. First aid measures

**General information:**
First aider: Pay attention to self-protection!

**In case of inhalation:**
Move victim to fresh air, put at rest and loosen restrictive clothing. In case of breathing stop use artificial aspiration immediately. In case of breathing difficulties administer oxygen. Seek medical attention.

**Following skin contact:**
After contact with skin, wash immediately with soap and plenty of water. Change contaminated clothing.
Immediately get medical attention.

**After eye contact:**
Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently seek the immediate attention of an ophthalmologist.

**After swallowing:**
Immediately get medical attention. Never give anything by mouth to an unconscious person. Rinse mouth immediately and drink plenty of water. Do not induce vomiting without medical assistance.

**Most important symptoms/effects, acute and delayed**

- **In case of inhalation:**
  - Strongly irritant. The following symptoms may occur: Sore throat, headache, fatigue, dizziness, cough, nausea, vomiting.
- **In case of ingestion:**
  - Toxic if swallowed. Burns in the mouth, pharynx, oesophagus, and gastrointestinal tract.
  - Other symptoms: Danger of stomach perforation. Abdominal pain, nausea, sore throat, vomiting, thirst and coma.
- **After contact with skin:**
  - Burns, causes poorly healing wounds.
- **After eye contact:**
  - Redness, pain, Danger of loss of sight.

**Information to physician**
Treat symptomatically.

5. Fire fighting measures

**Flash point/flash point range:**
> 199.4 °F

**Auto-ignition temperature:**
no data available

**Suitable extinguishing media:**
Water fog, dry chemical, foam, carbon dioxide.

**Extinguishing media which must not be used for safety reasons:**
High power water jet

**Specific hazards arising from the chemical**
This material is combustible, but will not ignite readily.
Harmful and/or toxic vapors may be produced in the event of thermal decomposition.
In case of fire may be liberated: aldehydes, acids, nitrogen oxides (NOx), phenols, Nitrosamine, carbon monoxide and carbon dioxide. Formation of numerous unknown compounds is possible.

**Protective equipment and precautions for firefighters:**
Wear a self-contained breathing apparatus and chemical protective clothing.

**Additional information:**
Seal off endangered area. Heating causes rise in pressure with risk of bursting. Cool endangered containers with water spray and, if possible, remove from danger zone. Fight fire from a safe distance. Stay upwind/keep distance from source. Use a water fog to control vapors. Do not allow fire water to penetrate into surface or ground water.
6. Accidental release measures

Personal precautions: Avoid the formation of aerosol/vapors. Avoid inhalation and contact with skin and eyes. Wear protective equipment. Ensure adequate ventilation, especially in confined areas. Keep unprotected people away.

Environmental precautions: Do not allow to enter into ground-water, surface water or drains. If necessary notify appropriate authorities.

Methods for clean-up: Soak up with absorbent materials such as sand, siliceus earth, acid- or universal binder. Store in special closed containers and dispose of according to ordinance. Thoroughly clean surrounding area. Dispose of waste according to applicable legislation.

Additional information: Special danger of slipping by leaking/spilling product.

7. Handling and storage

Handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed. Execute works under fume hood. Avoid contact with skin, eyes, and clothing. Avoid the formation of aerosol. Do not breathe vapor/aerosol/fog. Do not ingest. Wear protective equipment. When using do not eat, drink or smoke. Wash hands before breaks and after work.

Precautions against fire and explosion: Take standard precautions to prevent fire.

Storage

Requirements for storerooms and containers:

- Store container tightly closed in a dry and cool place. Do not drop, drag or bang the container. Store containers in upright position.
- Protect from moisture contamination. Store in a well-ventilated place. Keep away from sources of ignition. Keep away from incompatible materials.

Hints on joint storage:

- Incompatible materials: Nitrous acid, Sodium hypochlorite, peroxides, strong acids, mineral acids, strong oxidizing agents. Keep away from food and drinks.

8. Exposure controls / personal protection

Engineering controls

Provide adequate ventilation, and local exhaust as needed. Execute works under fume hood. See also information in chapter 7, section storage.

Personal protection equipment (PPE)


Skin protection:

- Protective work clothing, chemical resistant safety shoes.
- Glove material: Rubber or neoprene
- Layer thickness (recommended): >0.5 mm.
- Breakthrough time: not tested.
- Observe glove manufacturer's instructions concerning penetrability and breakthrough time.
Respiratory protection: When vapors form, use respiratory protection. Recommended: Use filter type A (= against vapors of organic substances) according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2. The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

General hygiene considerations: Avoid contact with skin, eyes, and clothing. Take off immediately all contaminated clothing. Do not breathe vapor/aerosol/fog. Work place should be equipped with a shower and an eye rinsing apparatus. When using do not eat, drink or smoke. After work, wash hands and face.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Form: liquid</td>
</tr>
<tr>
<td></td>
<td>Color: amber</td>
</tr>
<tr>
<td>Odor</td>
<td>amine odor</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>pH value</td>
<td>no data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>no data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>no data available</td>
</tr>
<tr>
<td>Flash point/flash point range</td>
<td>&gt; 199.4 °F</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Flammability</td>
<td>This material is combustible, but will not ignite readily.</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>no data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>no data available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>no data available</td>
</tr>
<tr>
<td>Density</td>
<td>no data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>no data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>no data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>no data available</td>
</tr>
<tr>
<td>Additional information</td>
<td>no data available</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Reactivity: May be corrosive to metals.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: Exothermic reactions with incompatible materials.

Conditions to avoid: Protect from excessive heat. Avoid open flames. Avoid the formation of aerosol/vapors.

Incompatible materials: Nitrous acid, Sodium hypochlorite, peroxides, strong acids, mineral acids, strong oxidizing agents, metals.
Hazardous decomposition products:
Formation of numerous unknown compounds is possible. In case of fire may be liberated:
aldehydes, acids, nitrogen oxides (NOx), phenols, Nitrosamine, carbon monoxide and
carbon dioxide.

Thermal decomposition: no data available

11. Toxicological information

Toxicological tests

Toxicological effects:

Acute toxicity (oral): Acute Toxicity - oral - Category 3 = Toxic if swallowed.
The product has not been tested. The statement is derived from the properties of the
single components.
ATEmix (calculated): 50<ATE<300.
Acute toxicity (dermal): Based on available data, the classification criteria are not met.
The product has not been tested. The statement is derived from the properties of the
single components.
Acute toxicity (inhalative): Based on available data, the classification criteria are not met.
The product has not been tested. The statement is derived from the properties of the
single components.
Skin corrosion/irritation, eye damage/irritation: Skin Corrosion -
Category 1A = Causes severe skin burns and eye damage.
Sensitisation to the respiratory tract: Lack of data.
Skin sensitisation: Sensitization - skin - Category 1 = May cause an allergic skin reaction.
The product has not been tested. The statement is derived from the properties of the
single components.
Germ cell mutagenicity/Genotoxicity: Lack of data.
Carcinogenicity: Lack of data.
Reproductive toxicity: Lack of data.
Effects on or via lactation: Lack of data.
Specific target organ toxicity (single exposure): Lack of data.
Specific target organ toxicity (repeated exposure): Specific Target Organ Toxicity
(Repeated Exposure) -
Category 2 = May cause damage to organs through prolonged or repeated exposure.
The product has not been tested. The statement is derived from the properties of the
single components.
Aspiration hazard: Lack of data.

Other information:
Amines (vapors): May cause damage to liver and kidneys through prolonged or repeated
exposure. Pre-existing skin and respiratory conditions including dermatitis, asthma and
chronic lung disease might be aggravated by exposure.
Symptoms

In case of inhalation:
Strongly irritant. The following symptoms may occur: Sore throat, headache, fatigue, dizziness, cough, nausea, vomiting.
In case of ingestion:
Toxic if swallowed. Burns in the mouth, pharynx, oesophagus, and gastrointestinal tract. Other symptoms: Danger of stomach perforation. Abdominal pain, nausea, sore throat, vomiting, thirst and coma.
After contact with skin: Burns, causes poorly healing wounds.
After eye contact: Redness, pain, Danger of loss of sight.

12. Ecological information

Ecotoxicity
Aquatic toxicity: Toxic to aquatic life with long lasting effects.

Mobility in soil
no data available

Persistence and degradability
Further details: no data available

Additional ecological information
General information: Do not allow to enter into ground-water, surface water or drains.

13. Disposal considerations

Product
Recommendation: Incinerate as hazardous waste according to applicable local, state, and federal regulations.

Contaminated packaging
Recommendation: Dispose of waste according to applicable legislation. Handle contaminated packages in the same way as the substance itself. Non-contaminated packages may be recycled. Do not remove label until container is thoroughly cleaned.
14. Transport information

**USA: Department of Transportation (DOT)**

Identification numbers: UN2922

Proper shipping name: UN 2922, CORROSIVE LIQUIDS, TOXIC, N.O.S. (Modified amine mixture, alpha-(4-Aminocyclohexyl)-p-toluidine)

DOT hazard class or division: 8

PG: II

Label codes: 8, 6.1

Symbols:

Special provisions: B3, IB2, T7, TP2

Packaging - Exceptions: 154

Packaging - Non-bulk: 202

Packaging - Bulk: 243

Quantity limitations - Passenger aircraft / rail: 1 L

Quantity limitations - Cargo only: 30 L

Vessel stowage - Location: B

Vessel stowage - Other: 40

**Sea transport (IMDG)**

UN number: 2922

Proper shipping name: UN 2922, CORROSIVE LIQUID, TOXIC, N.O.S. (alpha-(4-Aminocyclohexyl)-p-toluidine)

IMDG:

Class 8, Subrisk 6.1

Packing Group: II

EmS: F-A, S-B

Special provisions: 274

Limited quantities: 1 L

EQ: E2

Contaminated packaging - Instructions: P001

Contaminated packaging - Provisions: -

IBC - Instructions: IBC02

IBC - Provisions: -

Tank instructions - IMO: -

Tank instructions - UN: T7

Tank instructions - Provisions: TP2

Stowage and handling:

Category B. SW2

Causes burns to skin, eyes and mucous membranes. Toxic if swallowed, by skin contact or by inhalation.

Properties and observations:

Marine pollutant: Yes
Air transport (IATA)

UN/ID number: 2922
Proper shipping name: UN 2922, CORROSIVE LIQUID, TOXIC, N.O.S. (alpha-(4-Aminocyclohexyl)-p-toluidine)
ICAO/IATA: Class 8, Subrisk 6.1
PG: II
Hazard: Corrosive & Toxic
EQ: E2
Passenger Ltd Qty.: Pack.Instr. Y840 - Max. Net Qty/Pkg. 0.5 L
Passenger: Pack.Instr. 851 - Max. Net Qty/Pkg. 1 L
Cargo: Pack.Instr. 855 - Max. Net Qty/Pkg. 30 L
Special Provisioning: A3 A803
ERG: 8P

15. Regulatory information

U.S. Federal Regulations

Product: All ingredients of this product are listed on the TSCA inventory.
alpha-(4-Aminocyclohexyl)-p-toluidine: TSCA Inventory: listed
TSCA HPVC: not listed

National regulations - EC member states
Labeling (67/548/EEC or 1999/45/EC)

Code letter and hazard symbol:
T toxic
N dangerous for the environment

National regulations - Great Britain
Hazchem-Code: 2X

16. Other information

Text for labeling: Contains < 65 % alpha-(4-Aminocyclohexyl)-p-toluidine. Safety data sheet available on request.
Hazard rating systems:
NFPA Hazard Rating:
Health: 3 (Serious)
Fire: 1 (Slight)
Reactivity: 1 (Slight)
HMIS Version III Rating:
Health: 3 (Serious)
Flammability: 1 (Slight)
Physical Hazard: 1 (Slight)
Personal Protection: X = Consult your supervisor

Reason of change:
Changes in section 1: General revision

Department issuing data sheet
Contact person: see section 1: Dept. responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.