Section 1. Product and company identification

GHS product identifier : TRI145 - Trichloroethylene Degreasing and General Solvent
Product name : TRI145 - Trichloroethylene Degreasing and General Solvent
Code : 01554
Chemical name : TRICHLOROETHYLENE
Other means of identification : Trichloroethene; Trichlorethylene; Trichlor; C2HCl3
Product type : Liquid.

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

<table>
<thead>
<tr>
<th>Identified uses</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent. Metal degreaser.</td>
<td></td>
</tr>
</tbody>
</table>

Uses advised against

Reason

None identified.

Supplier's details

Manufacturer : Axiall, LLC
115 Perimeter Center Place
Suite 460
Atlanta, GA 30346
USA

Emergency telephone number : +1 304-455-6882
General information : msdsinfo@axiall.com

Section 2. Hazards identification

Classification of the substance or mixture : ACUTE TOXICITY (oral) - Category 5
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
GERM CELL MUTAGENICITY - Category 2
CARCINOGENICITY - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1
AQUATIC HAZARD (ACUTE) - Category 2
AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements
Section 2. Hazards identification

Hazard pictograms

Signal word

<table>
<thead>
<tr>
<th>Hazard statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>May be harmful if swallowed.</td>
</tr>
<tr>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>May cause cancer.</td>
</tr>
<tr>
<td>Suspected of causing genetic defects.</td>
</tr>
<tr>
<td>May be fatal if swallowed and enters airways.</td>
</tr>
<tr>
<td>May cause drowsiness and dizziness.</td>
</tr>
<tr>
<td>May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>Toxic to aquatic life.</td>
</tr>
<tr>
<td>Harmful to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

Precautionary statements

Prevention

- Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Wash hands thoroughly after handling.

Response

- Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage

- Store locked up.

Disposal

- Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification

- Aspiration hazard if swallowed. Can enter lungs and cause damage.
- Prolonged or repeated contact may dry skin and cause irritation.
- Do not ship lightly stabilized grades in aluminum trailers.

Section 3. Composition/information on ingredients

Substance/mixture

- Mono-constituent substance

Chemical name

- TRICHLOROETHYLENE

Other means of identification

- Trichloroethene; Trichlorethylene; Trichlor; C₂HCl₃

CAS number/other identifiers

- **CAS number**: 79-01-6
- **EC number**: 201-167-4
- **Product code**: 01554

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Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>trichloroethylene</td>
<td>&gt; 99</td>
<td>79-01-6</td>
</tr>
<tr>
<td>(stabilized)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Seek medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Seek medical attention if irritation persists.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Increased sensitivity of the heart to adrenaline may be caused by overexposure to this product. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.
Section 5. Fire-fighting measures

Specific hazards arising from the chemical: Emits toxic fumes under fire conditions. Vapors are heavier than air and may spread along floors. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapor concentration in a confined or poorly ventilated area can be ignited upon contact with a high energy spark, flame, or high intensity source of heat. This can occur at concentrations ranging between the upper and lower explosion limits (by volume). In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products: Depending on conditions, decomposition products may include the following materials:
- Carbon oxides
- Halogenated compounds
- Carbonyl halides

When this product is involved in fires, it can decompose to hydrogen chloride and possible traces of phosgene.

Special protective actions for fire-fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Stay upwind/keep distance from source. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. Toxic to aquatic life with long lasting effects. Dike spill area and do not allow product to reach sewage system or surface or ground water. Notify any reportable spill to authorities. (See section 12 for environmental risks and 13 for disposal information.)

Avoid contamination of water supplies. Handling, storage and use procedures must be carefully monitored to avoid spills or leaks. Any spill or leak has the potential to cause underground water contamination which may, if sufficiently severe, render a drinking water source unfit for human consumption. Contamination that does occur cannot be easily corrected. If area of spill is porous, remove as much earth and gravel, etc. as necessary and place in closed containers for disposal.
Section 6. Accidental release measures

Methods and materials for containment and cleaning up

Small spill: Stop leak if without risk. Eliminate all ignition sources. Move containers from spill area. Absorb spill with inert material (e.g. dry sand or earth) and place in a chemical waste container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Eliminate all ignition sources. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling: Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure - obtain special instructions before use. Do not get in eyes or on skin or clothing. Do not swallow. Do not breathe vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. Vapors are heavier than air and may spread along floors. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

This material or its vapors when in contact with flames, hot glowing surfaces or electric arcs can decompose to form hydrogen chloride gas and possible traces of phosgene. Do not use cutting or welding torches on drums that contained this product unless properly purged and cleaned. Do not ship lightly stabilized grades in aluminum trailers.

Conditions for safe storage, including any incompatibilities: Do not store above the following temperature: 35°C (95°F). Do not store or stack aluminum in contact with this product to prevent possible solvent decomposition (stacking corrosion). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Keep away from incompatible materials. Liquid oxygen or other strong oxidants may form explosive mixtures with this product. Use appropriate containment to avoid environmental contamination.
Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>trichloroethylene</td>
<td>Ministério do Trabalho e Emprego (Brazil, 11/2001). TWA: 78 ppm 8 hours. TWA: 420 mg/m³ 8 hours.</td>
</tr>
</tbody>
</table>

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. Impervious gloves. Viton®. Silver Shield® gloves. Polyvinyl alcohol (degrades in water).

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Section 8. Exposure controls/personal protection

Respiratory protection: Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance
Physical state: Liquid.
Color: Colorless.
Odor: Ethereal.
pH: 6.7 (minimum)
Melting point: -86.4°C (-123.5°F)
Boiling point: 86 to 90°C (186.8 to 194°F)
Flash point: None (by DOT test method).
Evaporation rate: 0.28 (ether (anhydrous) = 1)
Material supports combustion: Yes.

Flammability (solid, gas): Not available.
Lower and upper explosive (flammable) limits:
- Lower: 7.8%
- Upper: 52%
Vapor pressure: 7.7 kPa (57.8 mm Hg) [20°C]
Vapor density: 4.54 [Air = 1]
Relative density: 1.46 to 1.47 [at 20°C]
Solubility: 0.11 % at 20°C
Water Solubility at room temperature: 0.11 g/l
Partition coefficient: n-octanol/water: 2.42
Auto-ignition temperature: 420°C (788°F)
Viscosity: 0.55 cP @ 25°C

Section 10. Stability and reactivity

Reactivity: May react vigorously with sodium hydroxide. and strong alkalis. Shock sensitive compounds may be formed.

Chemical stability: Stable under recommended storage and handling conditions (see Section 7).

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerization will not occur.
Section 10. Stability and reactivity

Conditions to avoid: Keep away from ignition sources such as heat/sparks/open flame. - No smoking. When exposed to high temperatures may produce hazardous decomposition products.

When this product is involved in fires, it can decompose to hydrogen chloride and possible traces of phosgene.

Incompatible materials: Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids. Avoid contamination with caustic soda, caustic potash or oxidizing materials. Shock sensitive compounds may be formed.

Hazardous decomposition products: Depending on conditions, decomposition products may include the following materials: carbon monoxide, carbon dioxide, Hydrogen chloride (HCl). Phosgene gas.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>trichloroethylene</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>140700 mg/m³</td>
<td>1 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;20 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>4920 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Conclusion/Summary: May be harmful if swallowed or if inhaled. Aspiration hazard if swallowed. Can enter lungs and cause damage. Can cause central nervous system (CNS) depression.

Irritation/Corrosion

Not available.

Conclusion/Summary

Skin: Causes skin irritation.

Eyes: Causes serious eye irritation.

Respiratory: Irritating to respiratory system.

Sensitization

Not available.

Conclusion/Summary

Skin: In a guinea pig maximization test, trichloroethylene was shown to produce skin sensitization. However, there is no evidence that trichloroethylene is a human skin sensitizer as sensitization has not been observed in workers in the occupational environment with many years of use.

Mutagenicity

Not available.

Conclusion/Summary

When activated with microsomal enzymes, trichloroethylene has been shown to be weakly positive in certain microbial mutagen test systems.

Carcinogenicity

Not available.
Section 11. Toxicological information

Conclusion/Summary: Chronic exposure to trichloroethylene primarily produced renal toxicity and tumors in rats and liver and lung tumors in mice, with some reports of tumors at other sites.

Extensive epidemiologic cohort studies of Trichloroethylene-exposed workers do not indicate significant increases in cancer incidence, but case–control studies suggest that prolonged exposure to high concentrations of Trichloroethylene can increase the incidence of renal cancer.

Reproductive toxicity
Not available.

Conclusion/Summary: Trichloroethylene has not been shown to produce female reproductive toxicity. Damage to the epididymis and sperm integrity has been observed in male mice exposed to high levels of trichloroethylene (≥ 1000 ppm); however, there is very limited evidence existing for any male reproductive effect in rats or humans.

Teratogenicity
Not available.

Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>trichloroethylene</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
</tbody>
</table>

Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>trichloroethylene</td>
<td>Category 2</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Aspiration hazard

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>trichloroethylene</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
</tbody>
</table>

Information on the likely routes of exposure

<table>
<thead>
<tr>
<th>Potential acute health effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
</tr>
<tr>
<td>Inhalation</td>
</tr>
<tr>
<td>Skin contact</td>
</tr>
<tr>
<td>Ingestion</td>
</tr>
</tbody>
</table>

Eye contact: Causes serious eye irritation.
Inhalation: May be harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose, mouth and throat. Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin contact: Causes skin irritation. Defatting to the skin.
Ingestion: May be harmful if swallowed. Can cause central nervous system (CNS) depression. Aspiration hazard if swallowed. Can enter lungs and cause damage. Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following:
- pain or irritation
- watering
- redness

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Section 11. Toxicological information

Inhalation : Adverse symptoms may include the following:
- irritation
- nausea or vomiting
- headache
- drowsiness/fatigue
- dizziness/vertigo
- unconsciousness
- death

Skin contact : Adverse symptoms may include the following:
- irritation
- redness
- dryness
- cracking

Ingestion : Adverse symptoms may include the following:
- irritation
- nausea or vomiting
- headache
- dizziness/vertigo
- unconsciousness
- Aspiration hazard if swallowed.
- pulmonary edema
- chemical pneumonitis

Delayed and immediate effects and also chronic effects from short and long term exposure

**Short term exposure**

**Potential immediate effects** : Inhalation: dizziness/vertigo; unconsciousness; respiratory tract irritation; and/or central nervous system depression.

**Potential delayed effects** : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage.

**Long term exposure**

**Potential immediate effects** : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Repeated or prolonged exposure to the substance can produce liver damage. Repeated or prolonged exposure to the substance can produce kidney damage.

**Potential delayed effects** : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Repeated or prolonged exposure to the substance can produce liver damage. Repeated or prolonged exposure to the substance can produce kidney damage.

**Potential chronic health effects**

**Conclusion/Summary** : Prolonged exposure may result in liver and kidney damage as well as immunological effects. One immunological effect that has been reported in several studies linked occupational trichloroethylene exposure to a rare but severe immunological skin disorder and accompanying hepatitis (such as Stevens-Johnson syndrome) especially in people of Asian descent. The clinical features associated with these disorders include generalized severe dermatitis and shedding of the skin, fever, abnormal liver function, jaundice, and sometimes death due to liver failure and infection. The science involved in the understanding of this association between exposure to trichloroethylene and these severe immunological skin disorders is ongoing. Loss of auditory function (hearing loss) has also been observed in laboratory animals at high trichloroethylene exposure concentrations (≥ 2000 ppm). Prudent handling practices should be followed to minimize human exposure.
Section 11. Toxicological information

General: May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity: Can cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity: Suspected of causing genetic defects.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>4953.9 mg/kg</td>
</tr>
</tbody>
</table>

Section 12. Ecological information

Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>trichloroethylene</td>
<td>Acute EC50 36.5 mg/l Fresh water</td>
<td>Algae - Chlamydomonas reinhardtii - Exponential growth phase</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 390000 µg/l Fresh water</td>
<td>Algae - Selenastrum sp.</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 30000 µg/l Fresh water</td>
<td>Crustaceans - Asellus aquaticus</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 39000 µg/l Fresh water</td>
<td>Daphnia - Daphnia pulex</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 3100 µg/l Fresh water</td>
<td>Fish - Jordanella floridae - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 2200 µg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

Conclusion/Summary: Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Persistence/degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>trichloroethylene</td>
<td>-</td>
<td>50%; 7 day(s)</td>
<td>Not readily</td>
</tr>
</tbody>
</table>

Conclusion/Summary: According to EC criteria: Not expected to be readily biodegradable

Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>trichloroethylene</td>
<td>2.42</td>
<td>The BCF for Trichloroethylene (79-01-6) ranged from 4.3, 17, 39 and up to 302, in carp, bluegill sunfish, rainbow trout, and green algae respectively.</td>
<td>low</td>
</tr>
</tbody>
</table>

Brazil
Section 12. Ecological information

Mobility in soil
Soil/water partition coefficient (Koc) : 72 to 180

Other adverse effects : Do not allow to enter drains or watercourses.
Do not allow to enter drains or watercourses.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Section 14. Transport information

<table>
<thead>
<tr>
<th></th>
<th>UN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>1710</td>
<td>1710</td>
<td>1710</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>TRICHLOROETHYLENE</td>
<td>TRICHLOROETHYLENE</td>
<td>TRICHLOROETHYLENE</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>6.1</td>
<td>6.1</td>
<td>6.1</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Do not ship lightly stabilized grades in aluminum trailers.</td>
<td>Do not ship lightly stabilized grades in aluminum trailers.</td>
<td>Do not ship lightly stabilized grades in aluminum trailers.</td>
</tr>
<tr>
<td>Additional information</td>
<td>-</td>
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</tr>
</tbody>
</table>

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product : No known specific national and/or regional regulations applicable to this product (including its ingredients).
Section 16. Other information

History
Date of printing : 10/26/2013.
Date of issue/Date of revision : 10/26/2013.
Date of previous issue : 
Version : 1

Key to abbreviations : EHS
ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
LogPow = logarthim of the octanol/water partition coefficient
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
UN = United Nations

References : Not available.

 Disclaimer
The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by Axiall, LLC; and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.