SAFETY DATA SHEET

Flammable Gas Mixture: 1,2,3-Trimethylbenzene / 1,2,4-Trimethylbenzene / Benzene / Cyclohexane / Ethyl Benzene / Hexane / Methane / Methylcyclohexane / Methylcyclopentane / N-Decane / N-Heptane / N-Nonane / N-Octane / O-Xylene / P-Xylene

Section 1. Identification

GHS product identifier : Flammable Gas Mixture: 1,2,3-Trimethylbenzene / 1,2,4-Trimethylbenzene / Benzene / Cyclohexane / Ethyl Benzene / Hexane / Methane / Methylcyclohexane / Methylcyclopentane / N-Decane / N-Heptane / N-Nonane / N-Octane / O-Xylene / P-Xylene

Other means of identification : Not available.

Product use : Synthetic/Analytical chemistry.

SDS # : 020741

Supplier's details : Airgas USA, LLC and its affiliates
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253

24-hour telephone : 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE GASES - Category 1
GASES UNDER PRESSURE - Compressed gas

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Extremely flammable gas.
Contains gas under pressure; may explode if heated.
May form explosive mixtures in Air.
May displace oxygen and cause rapid suffocation.

Precautionary statements

General : Read and follow all Safety Data Sheets (SDS’S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Approach suspected leak area with caution.

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response : Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.

Storage : Protect from sunlight when ambient temperature exceeds 52°C/125°F. Store in a well-ventilated place.

Disposal : Not applicable.

Hazard not otherwise classified : In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.
Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>methane</td>
<td>99</td>
<td>74-82-8</td>
</tr>
<tr>
<td>octane</td>
<td>0.0001 - 0.05</td>
<td>111-65-9</td>
</tr>
<tr>
<td>Nonane</td>
<td>0.0001 - 0.05</td>
<td>111-84-2</td>
</tr>
<tr>
<td>n-decane</td>
<td>0.0001 - 0.05</td>
<td>124-18-5</td>
</tr>
<tr>
<td>1,2,3- trimethylbenzene</td>
<td>0.0001 - 0.05</td>
<td>526-73-8</td>
</tr>
<tr>
<td>p-xylene</td>
<td>0.0001 - 0.05</td>
<td>106-42-3</td>
</tr>
<tr>
<td>o-xylene</td>
<td>0.0001 - 0.05</td>
<td>95-47-6</td>
</tr>
<tr>
<td>methylcyclohexane</td>
<td>0.0001 - 0.05</td>
<td>108-87-2</td>
</tr>
<tr>
<td>methylcyclopentane</td>
<td>0.0001 - 0.05</td>
<td>96-37-7</td>
</tr>
<tr>
<td>n-hexane</td>
<td>0.0001 - 0.05</td>
<td>110-54-3</td>
</tr>
<tr>
<td>heptane</td>
<td>0.0001 - 0.05</td>
<td>142-82-5</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>0.0001 - 0.05</td>
<td>100-41-4</td>
</tr>
<tr>
<td>cyclohexane</td>
<td>0.0001 - 0.05</td>
<td>110-82-7</td>
</tr>
<tr>
<td>benzene</td>
<td>0.0001 - 0.05</td>
<td>71-43-2</td>
</tr>
<tr>
<td>1,2,4-trimethylbenzene</td>
<td>0.0001 - 0.05</td>
<td>95-63-6</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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**: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

**Inhalation**: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion**: As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

**Potential acute health effects**

**Eye contact**: Contact with rapidly expanding gas may cause burns or frostbite.

**Inhalation**: No known significant effects or critical hazards.

**Skin contact**: Contact with rapidly expanding gas may cause burns or frostbite.

**Frostbite**: Try to warm up the frozen tissues and seek medical attention.

**Ingestion**: As this product is a gas, refer to the inhalation section.
Section 4. First aid measures

Over-exposure signs/symptoms
- Eye contact: No specific data.
- Inhalation: No specific data.
- Skin contact: No specific data.
- Ingestion: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary
- Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments: No specific treatment.

Section 5. Fire-fighting measures

Extinguishing media
- Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical
- Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Hazardous thermal decomposition products
- Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide

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. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.

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: Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. 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: Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Section 6. Accidental release measures

Methods and materials for containment and cleaning up

Small spill
Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

Large spill
Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures
Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. 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 only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Advice on general occupational hygiene
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. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities
Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

methane
Oxygen Depletion [Asphyxiant]
TWA: 300 ppm 8 hours.
TWA: 1450 mg/m³ 8 hours.
STEL: 375 ppm 15 minutes.
STEL: 1800 mg/m³ 15 minutes.
NIOSH REL (United States, 10/2013).
TWA: 75 ppm 10 hours.
TWA: 350 mg/m³ 10 hours.
CEIL: 385 ppm 15 minutes.
CEIL: 1800 mg/m³ 15 minutes.
ACGIH TLV (United States, 3/2016).
TWA: 300 ppm 8 hours.
OSHA PEL (United States, 6/2016).
TWA: 500 ppm 8 hours.
TWA: 2350 mg/m³ 8 hours.
ACGIH TLV (United States, 3/2016).
TWA: 1050 mg/m³ 8 hours.
TWA: 200 ppm 8 hours.
NIOSH REL (United States, 10/2013).
TWA: 1050 mg/m³ 10 hours.
TWA: 200 ppm 10 hours.

octane
TWA: 300 ppm 8 hours.
TWA: 1450 mg/m³ 8 hours.
STEL: 375 ppm 15 minutes.
STEL: 1800 mg/m³ 15 minutes.
NIOSH REL (United States, 10/2013).
TWA: 75 ppm 10 hours.
TWA: 350 mg/m³ 10 hours.
CEIL: 385 ppm 15 minutes.
CEIL: 1800 mg/m³ 15 minutes.
ACGIH TLV (United States, 3/2016).
TWA: 300 ppm 8 hours.
OSHA PEL (United States, 6/2016).
TWA: 500 ppm 8 hours.
TWA: 2350 mg/m³ 8 hours.
ACGIH TLV (United States, 3/2016).
TWA: 1050 mg/m³ 8 hours.
TWA: 200 ppm 8 hours.
NIOSH REL (United States, 10/2013).
TWA: 1050 mg/m³ 10 hours.
TWA: 200 ppm 10 hours.

Nonane
TWA: 300 ppm 8 hours.
TWA: 1450 mg/m³ 8 hours.
STEL: 375 ppm 15 minutes.
STEL: 1800 mg/m³ 15 minutes.
NIOSH REL (United States, 10/2013).
TWA: 75 ppm 10 hours.
TWA: 350 mg/m³ 10 hours.
CEIL: 385 ppm 15 minutes.
CEIL: 1800 mg/m³ 15 minutes.
ACGIH TLV (United States, 3/2016).
TWA: 300 ppm 8 hours.
OSHA PEL (United States, 6/2016).
TWA: 500 ppm 8 hours.
TWA: 2350 mg/m³ 8 hours.
ACGIH TLV (United States, 3/2016).
TWA: 1050 mg/m³ 8 hours.
TWA: 200 ppm 8 hours.
NIOSH REL (United States, 10/2013).
TWA: 1050 mg/m³ 10 hours.
TWA: 200 ppm 10 hours.
Section 8. Exposure controls/personal protection

n-decane

1,2,3- trimethylbenzene

ACGIH TLV (United States, 3/2016).
TWA: 25 ppm 8 hours.
TWA: 123 mg/m³ 8 hours.

TWA: 25 ppm 8 hours.
TWA: 125 mg/m³ 8 hours.

NIOSH REL (United States, 10/2013).
TWA: 25 ppm 10 hours.
TWA: 125 mg/m³ 10 hours.

1,2,3- trimethylbenzene

TWA: 1050 mg/m³ 8 hours.
TWA: 200 ppm 8 hours.
None.

ACGIH TLV (United States, 3/2016).
TWA: 25 ppm 8 hours.
TWA: 123 mg/m³ 8 hours.

TWA: 25 ppm 8 hours.
TWA: 125 mg/m³ 8 hours.

NIOSH REL (United States, 10/2013).
TWA: 25 ppm 10 hours.
TWA: 125 mg/m³ 10 hours.

n-decane

1,2,3- trimethylbenzene

ACGIH TLV (United States, 3/2016).
TWA: 25 ppm 8 hours.
TWA: 123 mg/m³ 8 hours.

TWA: 25 ppm 8 hours.
TWA: 125 mg/m³ 8 hours.

NIOSH REL (United States, 10/2013).
TWA: 25 ppm 10 hours.
TWA: 125 mg/m³ 10 hours.

p-xylene

OSHA PEL (United States, 6/2016).
TWA: 435 mg/m³ 8 hours.
TWA: 100 ppm 8 hours.

TWA: 25 ppm 8 hours.
TWA: 125 mg/m³ 8 hours.

TWA: 25 ppm 8 hours.
TWA: 125 mg/m³ 8 hours.

NIOSH REL (United States, 10/2013).
STEL: 655 mg/m³ 15 minutes.
STEL: 150 ppm 15 minutes.
TWA: 435 mg/m³ 10 hours.
TWA: 100 ppm 10 hours.

OSHA PEL (United States, 6/2016).
TWA: 435 mg/m³ 8 hours.
TWA: 100 ppm 8 hours.

STEL: 655 mg/m³ 15 minutes.
STEL: 150 ppm 15 minutes.
TWA: 435 mg/m³ 8 hours.
TWA: 100 ppm 8 hours.

ACGIH TLV (United States, 3/2016).
TWA: 100 ppm 8 hours.
TWA: 434 mg/m³ 8 hours.
STEL: 150 ppm 15 minutes.
STEL: 651 mg/m³ 15 minutes.

o-xylene

OSHA PEL (United States, 6/2016).
TWA: 435 mg/m³ 8 hours.
TWA: 100 ppm 8 hours.

STEL: 655 mg/m³ 15 minutes.
STEL: 150 ppm 15 minutes.
TWA: 435 mg/m³ 8 hours.
TWA: 100 ppm 8 hours.

ACGIH TLV (United States, 3/2016).
TWA: 100 ppm 8 hours.
TWA: 434 mg/m³ 8 hours.
STEL: 150 ppm 15 minutes.
STEL: 651 mg/m³ 15 minutes.

methylcyclohexane

ACGIH TLV (United States, 3/2016).
TWA: 1610 mg/m³ 8 hours.
TWA: 400 ppm 8 hours.

NIOSH REL (United States, 10/2013).
TWA: 1600 mg/m³ 10 hours.
TWA: 400 ppm 10 hours.

OSHA PEL (United States, 6/2016).
TWA: 2000 mg/m³ 8 hours.
TWA: 500 ppm 8 hours.

TWA: 1600 mg/m³ 8 hours.
TWA: 400 ppm 8 hours.

ACGIH TLV (United States, 3/2016).

methylcyclopentane
**Section 8. Exposure controls/personal protection**

TWA: 500 ppm 8 hours.
TWA: 1760 mg/m³ 8 hours.
STEL: 1000 ppm 15 minutes.
STEL: 3500 mg/m³ 15 minutes.

**OSHA PEL 1989 (United States, 3/1989).**

TWA: 500 ppm 8 hours.
TWA: 1800 mg/m³ 8 hours.
STEL: 1000 ppm 15 minutes.
STEL: 3600 mg/m³ 15 minutes.

**NIOSH REL (United States, 10/2013).**

TWA: 100 ppm 10 hours.
TWA: 350 mg/m³ 10 hours.
CEIL: 510 ppm 15 minutes.
CEIL: 1800 mg/m³ 15 minutes.

**ACGIH TLV (United States, 3/2016).**

Absorbed through skin.
TWA: 50 ppm 8 hours.

**OSHA PEL (United States, 6/2016).**

TWA: 100 mg/m³ 8 hours.
TWA: 50 ppm 8 hours.

**NIOSH REL (United States, 10/2013).**

TWA: 180 mg/m³ 10 hours.
TWA: 50 ppm 10 hours.

**ACGIH TLV (United States, 3/2016).**

STEL: 2050 mg/m³ 15 minutes.
STEL: 500 ppm 15 minutes.
TWA: 1640 mg/m³ 8 hours.
TWA: 400 ppm 8 hours.

**NIOSH REL (United States, 10/2013).**

CEIL: 1800 mg/m³ 15 minutes.
CEIL: 440 ppm 15 minutes.
TWA: 350 mg/m³ 10 hours.
TWA: 85 ppm 10 hours.

**OSHA PEL (United States, 6/2016).**

TWA: 2000 mg/m³ 8 hours.
TWA: 500 ppm 8 hours.

**OSHA PEL 1989 (United States, 3/1989).**

STEL: 2000 mg/m³ 15 minutes.
STEL: 500 ppm 15 minutes.
TWA: 1600 mg/m³ 8 hours.
TWA: 400 ppm 8 hours.

**ACGIH TLV (United States, 3/2016).**

TWA: 20 ppm 8 hours.

**NIOSH REL (United States, 10/2013).**

STEL: 545 mg/m³ 15 minutes.
STEL: 125 ppm 15 minutes.
TWA: 435 mg/m³ 10 hours.
TWA: 100 ppm 10 hours.

**OSHA PEL (United States, 6/2016).**

TWA: 435 mg/m³ 8 hours.
TWA: 100 ppm 8 hours.

**OSHA PEL 1989 (United States, 3/1989).**

STEL: 545 mg/m³ 15 minutes.
STEL: 125 ppm 15 minutes.
TWA: 435 mg/m³ 8 hours.
TWA: 100 ppm 8 hours.

**ACGIH TLV (United States, 3/2016).**

TWA: 100 ppm 8 hours.

**NIOSH REL (United States, 10/2013).**
Section 8. Exposure controls/personal protection

TWA: 1050 mg/m³ 10 hours.
TWA: 300 ppm 10 hours.
**OSHA PEL (United States, 6/2016).**
TWA: 1050 mg/m³ 8 hours.
TWA: 300 ppm 8 hours.
**OSHA PEL 1989 (United States, 3/1989).**
TWA: 1050 mg/m³ 8 hours.
TWA: 300 ppm 8 hours.

**ACGIH TLV (United States, 3/2016).**
Absorbed through skin.
STEL: 8 mg/m³ 15 minutes.
STEL: 2.5 ppm 15 minutes.
TWA: 1.6 mg/m³ 8 hours.
TWA: 0.5 ppm 8 hours.
**OSHA PEL (United States, 6/2016).**
STEL: 1 ppm 15 minutes.
TWA: 0.1 ppm 10 hours.
**OSHA PEL (United States, 3/2016).**
STEL: 5 ppm 15 minutes.
TWA: 1 ppm 8 hours.
**OSHA PEL 1989 (United States, 3/1989).**
STEL: 1 ppm 15 minutes.
TWA: 0.1 ppm 8 hours.
**OSHA PEL Z2 (United States, 2/2013).**
AMP: 50 ppm 10 minutes.
CEIL: 25 ppm.
TWA: 10 ppm 8 hours.

**ACGIH TLV (United States, 3/2016).**
TWA: 123 mg/m³ 8 hours.
TWA: 25 ppm 8 hours.
**NIOSH REL (United States, 10/2013).**
TWA: 125 mg/m³ 10 hours.
TWA: 25 ppm 10 hours.
**OSHA PEL 1989 (United States, 3/1989).**
TWA: 125 mg/m³ 8 hours.
TWA: 25 ppm 8 hours.

---

**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. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**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.

**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**

- Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

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**Date of issue/Date of revision:** 5/19/2017
**Date of previous issue:** No previous validation
**Version:** 1

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Section 8. Exposure controls/personal 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.

**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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

**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.

**Respiratory protection**: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.

Section 9. Physical and chemical properties

**Appearance**
- **Physical state**: Gas.
- **Color**: Not available.
- **Melting/freezing point**: -187.6°C (-305.7°F) This is based on data for the following ingredient: methane.
- **Critical temperature**: Lowest known value: -82.45°C (-116.4°F) (methane).
- **Odor**: Not available.
- **Odor threshold**: Not available.
- **pH**: Not available.
- **Flash point**: Not available.
- **Burning time**: Not applicable.
- **Burning rate**: Not applicable.
- **Evaporation rate**: Not available.
- **Flammability (solid, gas)**: Not available.
- **Lower and upper explosive (flammable) limits**: Not available.
- **Vapor pressure**: Not available.
- **Vapor density**: Highest known value: 0.6 (Air = 1) (methane).
- **Gas Density (lb/ft³)**: Only known value: 0.040991 (methane).
- **Relative density**: Not applicable.
- **Solubility**: Not available.
- **Solubility in water**: Not available.
- **Partition coefficient: n-octanol/water**: Not available.
- **Auto-ignition temperature**: Not available.
- **Decomposition temperature**: Not available.
- **SADT**: Not available.
- **Viscosity**: Not applicable.
Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials: Oxidizers

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization: Under normal conditions of storage and use, hazardous polymerization will not occur.

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>octane</td>
<td>LC50 Inhalation Gas.</td>
<td>Rat</td>
<td>25260 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>118 g/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td>Nonane</td>
<td>LC50 Inhalation Gas.</td>
<td>Rat</td>
<td>3200 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>17000 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td>p-xylene</td>
<td>LC50 Inhalation Gas.</td>
<td>Rat</td>
<td>9100 ppm</td>
<td>1 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Gas.</td>
<td>Rat</td>
<td>4550 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>3910 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>o-xylene</td>
<td>LC50 Inhalation Gas.</td>
<td>Mouse</td>
<td>8736 ppm</td>
<td>1 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Gas.</td>
<td>Rat</td>
<td>13400 ppm</td>
<td>1 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>3567 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>methylcyclohexane</td>
<td>LC50 Inhalation Vapor</td>
<td>Mouse</td>
<td>20750 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapor</td>
<td>Rabbit</td>
<td>7613.5 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td>n-hexane</td>
<td>LC50 Inhalation Gas.</td>
<td>Rat</td>
<td>48000 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Gas.</td>
<td>Rat</td>
<td>96000 ppm</td>
<td>1 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>15840 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>heptane</td>
<td>LC50 Inhalation Gas.</td>
<td>Rat</td>
<td>48000 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>50242 ppm</td>
<td>1 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>103 g/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>3500 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>cyclohexane</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>6240 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>benzene</td>
<td>LC50 Inhalation Gas.</td>
<td>Rat</td>
<td>10000 ppm</td>
<td>7 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>930 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>1,2,4-trimethylbenzene</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>18000 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>5 g/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Irritation/Corrosion
Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonane</td>
<td>Skin - Mild irritant</td>
<td>Pig</td>
<td>-</td>
<td>24 hours 250 microliters</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>Rat</td>
<td>-</td>
<td>96 hours 300 microliters</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pig</td>
<td>-</td>
<td>96 hours 1200 microliters Intermittent</td>
<td></td>
</tr>
<tr>
<td>n-decane</td>
<td>Skin - Mild irritant</td>
<td>Pig</td>
<td>-</td>
<td>24 hours 100 microliters</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 microliters</td>
<td></td>
</tr>
<tr>
<td>methylcyclohexane</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>10 milligrams</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>500 milligrams</td>
<td></td>
</tr>
<tr>
<td>n-hexane</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 15 milligrams</td>
<td></td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>88 milligrams</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 2 milligrams</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rat</td>
<td>-</td>
<td>8 hours 60 microliters</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 15 milligrams</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 20 milligrams</td>
<td></td>
</tr>
<tr>
<td>benzene</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>88 milligrams</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 2 milligrams</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>8 hours 60 microliters</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 15 milligrams</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 20 milligrams</td>
<td></td>
</tr>
</tbody>
</table>

**Sensitization**
Not available.

**Mutagenicity**
Not available.

**Carcinogenicity**
Not available.

**Classification**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>benzene</td>
<td>+</td>
<td>1</td>
<td>Known to be a human carcinogen.</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>-</td>
<td>2B</td>
<td>-</td>
</tr>
<tr>
<td>o-xylene</td>
<td>-</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>p-xylene</td>
<td>-</td>
<td>3</td>
<td>-</td>
</tr>
</tbody>
</table>

**Reproductive toxicity**
Not available.

**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>octane 1,2,3-trimethylbenzene</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects, Respiratory tract irritation</td>
</tr>
<tr>
<td>methylcyclohexane</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td>n-hexane</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td>heptane</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td>cyclohexane</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td>1,2,4-trimethylbenzene</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects, Respiratory tract irritation</td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

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>n-hexane</td>
<td>Category 2</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>Category 2</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
<tr>
<td>benzene</td>
<td>Category 1</td>
<td>Not determined</td>
<td>bone marrow</td>
</tr>
</tbody>
</table>

Aspiration hazard

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>octane</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td>Nonane</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td>cyclohexane</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
</tbody>
</table>

Information on the likely routes of exposure: Not available.

Potential acute health effects

- **Eye contact**: Contact with rapidly expanding gas may cause burns or frostbite.
- **Inhalation**: No known significant effects or critical hazards.
- **Skin contact**: Contact with rapidly expanding gas may cause burns or frostbite.
- **Ingestion**: As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

- **Eye contact**: No specific data.
- **Inhalation**: No specific data.
- **Skin contact**: No specific data.
- **Ingestion**: No specific data.

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

**Short term exposure**

- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

**Long term exposure**

- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

**Potential chronic health effects**

Not available.

- **General**: No known significant effects or critical hazards.
- **Carcinogenicity**: No known significant effects or critical hazards.
- **Mutagenicity**: No known significant effects or critical hazards.
- **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**

Not available.
## Section 11. Toxicological information

### Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-decane</td>
<td>Acute EC50 89 mg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 18000 to 24000 µg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 &gt;500 ppm Marine water</td>
<td>Fish - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>96 hours</td>
</tr>
<tr>
<td>p-xylene</td>
<td>Acute EC50 3200 µg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 4730 to 6310 µg/l Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 2 µL/L Marine water</td>
<td>Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>96 hours</td>
</tr>
<tr>
<td>o-xylene</td>
<td>Acute EC50 4700 µg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 1390 µg/l Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 38000 µg/l Marine water</td>
<td>Crustaceans - Cancer magister - Zoea</td>
<td>48 hours</td>
</tr>
<tr>
<td>methylcyclohexane</td>
<td>Acute LC50 7600 µg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 5800 µg/l Marine water</td>
<td>Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>96 hours</td>
</tr>
<tr>
<td>n-heptane</td>
<td>Acute LC50 113000 µg/l Fresh water</td>
<td>Fish - Oreochromis mossambicus</td>
<td>96 hours</td>
</tr>
<tr>
<td>heptane</td>
<td>Acute LC50 375000 µg/l Fresh water</td>
<td>Fish - Oreochromis mossambicus</td>
<td>96 hours</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>Acute EC50 4600 µg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 3600 µg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 2930 to 4400 µg/l Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 40000 µg/l Marine water</td>
<td>Crustaceans - Cancer magister - Zoea</td>
<td>48 hours</td>
</tr>
<tr>
<td>cyclohexane</td>
<td>Acute LC50 4200 µg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 8300 µg/l Marine water</td>
<td>Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>96 hours</td>
</tr>
<tr>
<td>benzene</td>
<td>Acute EC50 29000 µg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 1600000 µg/l Fresh water</td>
<td>Algae - Selenastrum sp.</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 9230 µg/l Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 21 mg/l Marine water</td>
<td>Crustaceans - Artemia salina</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 5.28 ul/L Fresh water</td>
<td>Fish - Oncorhynchus gorbuscha - Fry</td>
<td>96 hours</td>
</tr>
<tr>
<td>1,2,4-trimethylbenzene</td>
<td>Chronic NOEC 98 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 1.5 to 5.4 ul/L Marine water</td>
<td>Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>4 weeks</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 4910 µg/l Marine water</td>
<td>Crustaceans - Elasmopus pectenicrus - Adult</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 22.4 mg/l Fresh water</td>
<td>Fish - Tilapia zillii</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

## Section 12. Ecological information

### Persistence and degradability

Not available.
Section 12. Ecological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>methane</td>
<td>1.09</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>octane</td>
<td>5.18</td>
<td>198.7</td>
<td>low</td>
</tr>
<tr>
<td>Nonane</td>
<td>5.65</td>
<td>105</td>
<td>low</td>
</tr>
<tr>
<td>n-decane</td>
<td>5.86</td>
<td>-</td>
<td>high</td>
</tr>
<tr>
<td>1,2,3-trimethylbenzene</td>
<td>3.66</td>
<td>194.98</td>
<td>low</td>
</tr>
<tr>
<td>p-xylene</td>
<td>3.15</td>
<td>8.1 to 25.9</td>
<td>low</td>
</tr>
<tr>
<td>o-xylene</td>
<td>3.12</td>
<td>8.1 to 25.9</td>
<td>low</td>
</tr>
<tr>
<td>methylcyclohexane</td>
<td>3.61</td>
<td>112</td>
<td>low</td>
</tr>
<tr>
<td>methylcyclopentane</td>
<td>3.37</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>n-hexane</td>
<td>4</td>
<td>501.187</td>
<td>high</td>
</tr>
<tr>
<td>heptane</td>
<td>4.66</td>
<td>552</td>
<td>high</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>3.6</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>cyclohexane</td>
<td>3.44</td>
<td>167</td>
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</tr>
<tr>
<td>benzene</td>
<td>2.13</td>
<td>11</td>
<td>low</td>
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<tr>
<td>1,2,4-trimethylbenzene</td>
<td>3.63</td>
<td>243</td>
<td>low</td>
</tr>
</tbody>
</table>

**Mobility in soil**

**Soil/water partition coefficient (K_{OC})**: Not available.

**Other adverse effects**: No known significant effects or critical hazards.

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. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

<table>
<thead>
<tr>
<th>UN number</th>
<th>DOT</th>
<th>TDG</th>
<th>Mexico</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN1954</td>
<td>UN1954</td>
<td>UN1954</td>
<td>UN1954</td>
<td>UN1954</td>
<td>UN1954</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>COMPRESSED GAS, FLAMMABLE, N.O.S. (Methane, Benzene)</td>
<td>COMPRESSED GAS, FLAMMABLE, N.O.S. (Methane, Benzene)</td>
<td>COMPRESSED GAS, FLAMMABLE, N.O.S. (Methane, Benzene)</td>
<td>COMPRESSED GAS, FLAMMABLE, N.O.S. (Methane, Benzene)</td>
<td>COMPRESSED GAS, FLAMMABLE, N.O.S. (Methane, Benzene)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Packing group</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Date of issue/Date of revision : 5/19/2017
Date of previous issue : No previous validation
Version : 1

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Section 14. Transport information

**Additional information**

<table>
<thead>
<tr>
<th>Reportable quantity</th>
<th>Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).</th>
</tr>
</thead>
<tbody>
<tr>
<td>20000 lbs / 9080 kg</td>
<td>Explosive Limit and Limited Quantity Index 0.125</td>
</tr>
<tr>
<td></td>
<td>ERAP Index 3000</td>
</tr>
<tr>
<td></td>
<td>Passenger Carrying Ship Index Forbidden</td>
</tr>
<tr>
<td></td>
<td>Passenger Carrying Road or Rail Index Forbidden</td>
</tr>
</tbody>
</table>

**Special precautions for user**

Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not available.

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

Section 15. Regulatory information

**U.S. Federal regulations**

- TSCA 4(a) final test rules: nonane
- TSCA 8(a) PAIR: heptane; methylcyclohexane; p-xylene; nonane
- TSCA 8(a) CDR Exempt/Partial exemption: Not determined
- United States inventory (TSCA 8b): All components are listed or exempted.
- Clean Water Act (CWA) 307: benzene; ethylbenzene
- Clean Water Act (CWA) 311: benzene; cyclohexane; ethylbenzene; o-xylene; p-xylene
- Clean Air Act (CAA) 112 regulated flammable substances: methane

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)**

- Not listed

**Clean Air Act Section 602 Class I Substances**

- Not listed

**Clean Air Act Section 602 Class II Substances**

- Not listed

**DEA List I Chemicals (Precursor Chemicals)**

- Not listed

**DEA List II Chemicals (Essential Chemicals)**

- Not listed

**SARA 302/304 Composition/information on ingredients**

No products were found.

**SARA 304 RQ**

- Not applicable.

**SARA 311/312**

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Date of previous issue : No previous validation
Version : 1

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Section 15. Regulatory information

**Classification**: Refer to Section 2: Hazards Identification of this SDS for classification of substance.

**State regulations**
- **Massachusetts**: The following components are listed: METHANE; MARSH GAS
- **New York**: None of the components are listed.
- **New Jersey**: The following components are listed: METHANE
- **Pennsylvania**: The following components are listed: METHANE

**California Prop. 65**
WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer.
WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Cancer</th>
<th>Reproductive</th>
<th>No significant risk level</th>
<th>Maximum acceptable dosage level</th>
</tr>
</thead>
<tbody>
<tr>
<td>benzene</td>
<td>Yes.</td>
<td>Yes.</td>
<td>6.4 µg/day (ingestion)</td>
<td>24 µg/day (ingestion)</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>Yes.</td>
<td>No.</td>
<td>13 µg/day (inhalation)</td>
<td>49 µg/day (inhalation)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>41 µg/day (ingestion)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>54 µg/day (inhalation)</td>
<td></td>
</tr>
</tbody>
</table>

**International regulations**

**International lists**

**National inventory**
- **Australia**: All components are listed or exempted.
- **Canada**: All components are listed or exempted.
- **China**: All components are listed or exempted.
- **Europe**: All components are listed or exempted.
- **Japan**: All components are listed or exempted.
- **Malaysia**: Not determined.
- **New Zealand**: All components are listed or exempted.
- **Philippines**: All components are listed or exempted.
- **Republic of Korea**: All components are listed or exempted.
- **Taiwan**: All components are listed or exempted.

**Canada**
- **WHMIS (Canada)**: Class A: Compressed gas. Class B-1: Flammable gas.
- **CEPA Toxic substances**: The following components are listed: Methane
- **Canadian ARET**: None of the components are listed.
- **Canadian NPRI**: The following components are listed: Volatile organic compounds
- **Alberta Designated Substances**: None of the components are listed.
- **Ontario Designated Substances**: None of the components are listed.
- **Quebec Designated Substances**: None of the components are listed.

Section 16. Other information

**Canada Label requirements**: Class A: Compressed gas. Class B-1: Flammable gas.

**Hazardous Material Information System (U.S.A.)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>1</td>
</tr>
<tr>
<td>Flammability</td>
<td>4</td>
</tr>
<tr>
<td>Physical hazards</td>
<td>3</td>
</tr>
</tbody>
</table>

**Date of issue/Date of revision**: 5/19/2017
**Date of previous issue**: No previous validation
**Version**: 1
Section 16. Other information

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Gas 1, H220</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>Press. Gas Comp. Gas, H280</td>
<td>On basis of test data</td>
</tr>
</tbody>
</table>

History

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Version : 1

Key to abbreviations

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.