SAFETY DATA SHEET

Nonflammable Gas Mixture: 63 Component Certified Hydrocarbon Blend

Airgas
an Air Liquide company

Section 1. Identification

GHS product identifier : Nonflammable Gas Mixture: 63 Component Certified Hydrocarbon Blend

Other means of identification : Not available.

Product type : Gas.

Product use : Synthetic/Analytical chemistry.

SDS # : 019241

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 : GASES UNDER PRESSURE - Compressed gas

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : Contains gas under pressure; may explode if heated.
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.

Prevention : Not applicable.

Response : Not applicable.

Storage : Protect from sunlight. Store in a well-ventilated place.

Disposal : Not applicable.

Hazards 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

Substance/mixture : Mixture

Other means of identification : Not available.

Product code : 019241

Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
Nitrogen	99.968 - 99.9999	7727-37-9
1,2,4-trimethylbenzene	0.0000001 - 0.0005	95-63-6
1,3,5-Trimethylbenzene	0.0000001 - 0.0005	108-67-8
benzene	0.0000001 - 0.0005	71-43-2
ethylbenzene	0.0000001 - 0.0005	100-41-4
n-hexane	0.0000001 - 0.0005	110-54-3
m-xylene	0.0000001 - 0.0005	108-38-3
heptane	0.0000001 - 0.0005	142-82-5
o-xylene	0.0000001 - 0.0005	95-47-6
p-xylene	0.0000001 - 0.0005	106-42-3
toluene	0.0000001 - 0.0005	108-88-3
vinyl chloride	0.0000001 - 0.0005	75-01-4
vinyl acetate	0.0000001 - 0.0005	108-05-4
TRANS-D	0.0000001 - 0.0005	10061-02-6
trans-dichloroethylene	0.0000001 - 0.0005	156-60-5
trichloroethylene	0.0000001 - 0.0005	79-01-6
Methane, trichlorofluoro-	0.0000001 - 0.0005	75-69-4
propylene	0.0000001 - 0.0005	115-07-1
tetrachloroethylene	0.0000001 - 0.0005	127-18-4
dichloromethane	0.0000001 - 0.0005	75-09-2
tert-butyl methyl ether	0.0000001 - 0.0005	1634-04-4
4-methylpentan-2-one	0.0000001 - 0.0005	108-10-1
Methyl Ethyl Ketone	0.0000001 - 0.0005	78-93-3
Methyl Chloride	0.0000001 - 0.0005	74-87-3
hexan-2-one	0.0000001 - 0.0005	591-78-6
Isopropyl alcohol	0.0000001 - 0.0005	67-63-0
hexachlorobuta-1,3-diene	0.0000001 - 0.0005	87-68-3
Ethyl chloride	0.0000001 - 0.0005	75-00-3
ethyl acetate	0.0000001 - 0.0005	141-78-6
ethanol	0.0000001 - 0.0005	64-17-5
cyclohexane	0.0000001 - 0.0005	110-82-7
(Z)-1,3-dichloropropene	0.0000001 - 0.0005	10061-01-5
cis-dichloroethylene	0.0000001 - 0.0005	156-59-2
Chloroform	0.0000001 - 0.0005	67-66-3
chlorobenzene	0.0000001 - 0.0005	108-90-7
carbon tetrachloride	0.0000001 - 0.0005	56-23-5
carbon disulphide	0.0000001 - 0.0005	75-15-0
bromoform	0.0000001 - 0.0005	75-25-2
bromodichloromethane	0.0000001 - 0.0005	75-27-4
α-chlorotoluene	0.0000001 - 0.0005	100-44-7
1,4-dichlorobenzene	0.0000001 - 0.0005	106-46-7
1,3-dichlorbenzene	0.0000001 - 0.0005	541-73-1
1,3-butadiene	0.0000001 - 0.0005	106-99-0
1,2,4-trichlorobenzene	0.0000001 - 0.0005	120-82-1
1,1-dichloroethane	0.0000001 - 0.0005	75-34-3
1,1-dichloroethylene	0.0000001 - 0.0005	75-35-4
1,1,1-trichloroethane	0.0000001 - 0.0005	71-55-6
1,1,2-trichloroethane	0.0000001 - 0.0005	79-00-5
1,1,2,2-tetrachloroethane	0.0000001 - 0.0005	79-34-5
1,2-dibromoethane	0.0000001 - 0.0005	106-93-4
1,2-dichloroethane	0.0000001 - 0.0005	107-06-2
1,2-dichlorobenzene	0.0000001 - 0.0005	95-50-1
1,4-dioxane	0.0000001 - 0.0005	123-91-1
4-ethyltoluene	0.0000001 - 0.0005	622-96-8
acetone	0.0000001 - 0.0005	67-64-1
1,1,2-Trichlorotrifluoroethane	0.0000001 - 0.0005	76-13-1
1,2-dichlorotetrafluoroethane	0.0000001 - 0.0005	76-14-2
Methane, dichlorodifluoro-	0.0000001 - 0.0005	75-71-8
tetrahydrofuran	0.0000001 - 0.0005	109-99-9
styrene	0.0000001 - 0.0005	100-42-5
1,2-dichloropropane	0.0000001 - 0.0005	78-87-5
bromomethane	0.0000001 - 0.0005	74-83-9

Section 3. Composition/information on ingredients

dibromochloromethane	0.0000001 - 0.0005	124-48-1

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. 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.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. 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.

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

Notes to physician : 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. 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 an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
nitrogen oxides

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.

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. Keep unnecessary and unprotected personnel from entering. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized 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).

Methods and materials for containment and cleaning up

Small spill : Immediately contact emergency personnel. Stop leak if without risk.

Large spill : Immediately contact emergency personnel. Stop leak if without risk. 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 breathing gas. 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.
Avoid contact with eyes, skin and clothing. Empty containers retain product residue and can be hazardous.

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.

Section 7. Handling and storage

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). 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). Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Nitrogen	**ACGIH TLV (United States, 3/2017). Oxygen Depletion [Asphyxiant].**
1,2,4-trimethylbenzene	**ACGIH TLV (United States, 3/2017).** TWA: 123 mg/m³ 8 hours. TWA: 25 ppm 8 hours. **NIOSH REL (United States, 10/2016).** 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.
1,3,5-Trimethylbenzene	**ACGIH TLV (United States, 3/2017).** TWA: 25 ppm 8 hours. TWA: 123 mg/m³ 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 25 ppm 8 hours. TWA: 125 mg/m³ 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 25 ppm 10 hours. TWA: 125 mg/m³ 10 hours.
benzene	**ACGIH TLV (United States, 3/2017).** **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. **NIOSH REL (United States, 10/2016).** STEL: 1 ppm 15 minutes. TWA: 0.1 ppm 10 hours. **OSHA PEL (United States, 6/2016).** STEL: 5 ppm 15 minutes. TWA: 1 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 5 ppm 15 minutes. TWA: 1 ppm 8 hours. **OSHA PEL Z2 (United States, 2/2013).** AMP: 50 ppm 10 minutes. CEIL: 25 ppm TWA: 10 ppm 8 hours.
ethylbenzene	**ACGIH TLV (United States, 3/2017).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2016).** 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.

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	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.
n-hexane	**ACGIH TLV (United States, 3/2017).** **Absorbed through skin.** TWA: 50 ppm 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 180 mg/m³ 10 hours. TWA: 50 ppm 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 1800 mg/m³ 8 hours. TWA: 500 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 180 mg/m³ 8 hours. TWA: 50 ppm 8 hours.
m-xylene	**NIOSH REL (United States, 10/2016).** 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. **OSHA PEL 1989 (United States, 3/1989).** 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, 3/2017).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes.
heptane	**ACGIH TLV (United States, 3/2017).** 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, 10/2016).** 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.
o-xylene	**NIOSH REL (United States, 10/2016).** 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).**

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	TWA: 435 mg/m³ 8 hours. TWA: 100 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** 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, 3/2017).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes.
p-xylene	**NIOSH REL (United States, 10/2016).** 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. **OSHA PEL 1989 (United States, 3/1989).** 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, 3/2017).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes.
toluene	**ACGIH TLV (United States, 3/2017).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2016).** STEL: 560 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 375 mg/m³ 10 hours. TWA: 100 ppm 10 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 560 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 375 mg/m³ 8 hours. TWA: 100 ppm 8 hours. **OSHA PEL Z2 (United States, 2/2013).** AMP: 500 ppm 10 minutes. CEIL: 300 ppm TWA: 200 ppm 8 hours.
vinyl chloride	**ACGIH TLV (United States, 3/2017).** TWA: 1 ppm 8 hours. **OSHA PEL (United States, 6/2016).** STEL: 5 ppm 15 minutes. TWA: 1 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 5 ppm 15 minutes. TWA: 1 ppm 8 hours.
vinyl acetate	**ACGIH TLV (United States, 3/2017).** STEL: 53 mg/m³ 15 minutes. STEL: 15 ppm 15 minutes. TWA: 35 mg/m³ 8 hours. TWA: 10 ppm 8 hours. **NIOSH REL (United States, 10/2016).** CEIL: 15 mg/m³ 15 minutes.

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	CEIL: 4 ppm 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** STEL: 60 mg/m³ 15 minutes. STEL: 20 ppm 15 minutes. TWA: 30 mg/m³ 8 hours. TWA: 10 ppm 8 hours.
TRANS-D	None.
trans-dichloroethylene	**ACGIH TLV (United States, 3/2017).** TWA: 200 ppm 8 hours. TWA: 793 mg/m³ 8 hours.
trichloroethylene	**ACGIH TLV (United States, 3/2017).** STEL: 25 ppm 15 minutes. TWA: 10 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 1080 mg/m³ 15 minutes. STEL: 200 ppm 15 minutes. TWA: 270 mg/m³ 8 hours. TWA: 50 ppm 8 hours. **OSHA PEL Z2 (United States, 2/2013).** AMP: 300 ppm 5 minutes. CEIL: 200 ppm TWA: 100 ppm 8 hours.
Methane, trichlorofluoro-	**ACGIH TLV (United States, 3/2017).** C: 5620 mg/m³ C: 1000 ppm **NIOSH REL (United States, 10/2016).** CEIL: 5600 mg/m³ CEIL: 1000 ppm **OSHA PEL (United States, 6/2016).** TWA: 5600 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** CEIL: 5600 mg/m³ CEIL: 1000 ppm
propylene	**ACGIH TLV (United States, 3/2017).** TWA: 500 ppm 8 hours. **ACGIH TLV (United States, 1/2005).** TWA: 500 ppm 8 hours. Form: All forms
tetrachloroethylene	**ACGIH TLV (United States, 3/2017).** STEL: 685 mg/m³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 170 mg/m³ 8 hours. TWA: 25 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 170 mg/m³ 8 hours. TWA: 25 ppm 8 hours. **OSHA PEL Z2 (United States, 2/2013).** AMP: 300 ppm 5 minutes. CEIL: 200 ppm TWA: 100 ppm 8 hours.
dichloromethane	**ACGIH TLV (United States, 3/2017).** TWA: 174 mg/m³ 8 hours. TWA: 50 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 125 ppm 15 minutes. TWA: 25 ppm 8 hours. **OSHA PEL Z2 (United States, 2/2013).** STEL: 125 ppm 15 minutes. TWA: 25 ppm 8 hours.
tert-butyl methyl ether	**ACGIH TLV (United States, 3/2017).** TWA: 50 ppm 8 hours.

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4-methylpentan-2-one	**ACGIH TLV (United States, 3/2017).** TWA: 20 ppm 8 hours. STEL: 75 ppm 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 50 ppm 8 hours. TWA: 205 mg/m³ 8 hours. STEL: 75 ppm 15 minutes. STEL: 300 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2016).** TWA: 50 ppm 10 hours. TWA: 205 mg/m³ 10 hours. STEL: 75 ppm 15 minutes. STEL: 300 mg/m³ 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 100 ppm 8 hours. TWA: 410 mg/m³ 8 hours.
Methyl Ethyl Ketone	**ACGIH TLV (United States, 3/2017).** STEL: 885 mg/m³ 15 minutes. STEL: 300 ppm 15 minutes. TWA: 590 mg/m³ 8 hours. TWA: 200 ppm 8 hours. **NIOSH REL (United States, 10/2016).** STEL: 885 mg/m³ 15 minutes. STEL: 300 ppm 15 minutes. TWA: 590 mg/m³ 10 hours. TWA: 200 ppm 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 590 mg/m³ 8 hours. TWA: 200 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 885 mg/m³ 15 minutes. STEL: 300 ppm 15 minutes. TWA: 590 mg/m³ 8 hours. TWA: 200 ppm 8 hours.
Methyl Chloride	**ACGIH TLV (United States, 3/2017).** **Absorbed through skin.** TWA: 50 ppm 8 hours. TWA: 103 mg/m³ 8 hours. STEL: 100 ppm 15 minutes. STEL: 207 mg/m³ 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 50 ppm 8 hours. TWA: 105 mg/m³ 8 hours. STEL: 100 ppm 15 minutes. STEL: 210 mg/m³ 15 minutes. **OSHA PEL Z2 (United States, 2/2013).** TWA: 100 ppm 8 hours. CEIL: 200 ppm AMP: 300 ppm 5 minutes.
hexan-2-one	**OSHA PEL 1989 (United States, 3/1989).** TWA: 5 ppm 8 hours. TWA: 20 mg/m³ 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 1 ppm 10 hours. TWA: 4 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2017).** **Absorbed through skin.** TWA: 5 ppm 8 hours. STEL: 10 ppm 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 100 ppm 8 hours.

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	TWA: 410 mg/m³ 8 hours.
Isopropyl alcohol	**ACGIH TLV (United States, 3/2017).** TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 400 ppm 8 hours. TWA: 980 mg/m³ 8 hours. STEL: 500 ppm 15 minutes. STEL: 1225 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2016).** TWA: 400 ppm 10 hours. TWA: 980 mg/m³ 10 hours. STEL: 500 ppm 15 minutes. STEL: 1225 mg/m³ 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 400 ppm 8 hours. TWA: 980 mg/m³ 8 hours.
hexachlorobuta-1,3-diene	**ACGIH TLV (United States, 3/2017).** **Absorbed through skin.** TWA: 0.02 ppm 8 hours. TWA: 0.21 mg/m³ 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 0.02 ppm 8 hours. TWA: 0.24 mg/m³ 8 hours. **NIOSH REL (United States, 10/2016).** **Absorbed through skin.** TWA: 0.02 ppm 10 hours. TWA: 0.24 mg/m³ 10 hours.
Ethyl chloride	**ACGIH TLV (United States, 3/2017).** **Absorbed through skin.** TWA: 264 mg/m³ 8 hours. TWA: 100 ppm 8 hours. **OSHA PEL (United States, 6/2016).** TWA: 2600 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 2600 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.
ethyl acetate	**ACGIH TLV (United States, 3/2017).** TWA: 400 ppm 8 hours. TWA: 1440 mg/m³ 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 400 ppm 8 hours. TWA: 1400 mg/m³ 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 400 ppm 10 hours. TWA: 1400 mg/m³ 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 400 ppm 8 hours. TWA: 1400 mg/m³ 8 hours.
ethanol	**ACGIH TLV (United States, 3/2017).** STEL: 1000 ppm 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 1000 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours.

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cyclohexane	**ACGIH TLV (United States, 3/2017).** TWA: 100 ppm 8 hours. **NIOSH REL (United States, 10/2016).** 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.
(Z)-1,3-dichloropropene	None.
cis-dichloroethylene	**ACGIH TLV (United States, 3/2017).** TWA: 200 ppm 8 hours. TWA: 793 mg/m³ 8 hours.
Chloroform	**ACGIH TLV (United States, 3/2017).** TWA: 49 mg/m³ 8 hours. TWA: 10 ppm 8 hours. **NIOSH REL (United States, 10/2016).** STEL: 9.78 mg/m³ 60 minutes. STEL: 2 ppm 60 minutes. **OSHA PEL (United States, 6/2016).** CEIL: 240 mg/m³ CEIL: 50 ppm **OSHA PEL 1989 (United States, 3/1989).** TWA: 9.78 mg/m³ 8 hours. TWA: 2 ppm 8 hours.
chlorobenzene	**ACGIH TLV (United States, 3/2017).** TWA: 46 mg/m³ 8 hours. TWA: 10 ppm 8 hours. **OSHA PEL (United States, 6/2016).** TWA: 350 mg/m³ 8 hours. TWA: 75 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 350 mg/m³ 8 hours. TWA: 75 ppm 8 hours.
carbon tetrachloride	**ACGIH TLV (United States, 3/2017).** **Absorbed through skin.** TWA: 5 ppm 8 hours. TWA: 31 mg/m³ 8 hours. STEL: 10 ppm 15 minutes. STEL: 63 mg/m³ 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 2 ppm 8 hours. TWA: 12.6 mg/m³ 8 hours. **OSHA PEL Z2 (United States, 2/2013).** TWA: 10 ppm 8 hours. CEIL: 25 ppm AMP: 200 ppm 5 minutes. **NIOSH REL (United States, 10/2016).** STEL: 2 ppm 60 minutes. STEL: 12.6 mg/m³ 60 minutes.
carbon disulphide	**ACGIH TLV (United States, 3/2017).** **Absorbed through skin.** TWA: 1 ppm 8 hours. **NIOSH REL (United States, 10/2016).** **Absorbed through skin.** STEL: 30 mg/m³ 15 minutes. STEL: 10 ppm 15 minutes. TWA: 3 mg/m³ 10 hours. TWA: 1 ppm 10 hours.

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	OSHA PEL 1989 (United States, 3/1989). **Absorbed through skin.** STEL: 36 mg/m³ 15 minutes. STEL: 12 ppm 15 minutes. TWA: 12 mg/m³ 8 hours. TWA: 4 ppm 8 hours. **OSHA PEL Z2 (United States, 2/2013).** AMP: 100 ppm 30 minutes. CEIL: 30 ppm TWA: 20 ppm 8 hours.
bromoform	**ACGIH TLV (United States, 3/2017).** TWA: 0.5 ppm 8 hours. **NIOSH REL (United States, 10/2016).** **Absorbed through skin.** TWA: 5 mg/m³ 10 hours. TWA: 0.5 ppm 10 hours. **OSHA PEL (United States, 6/2016).** **Absorbed through skin.** TWA: 5 mg/m³ 8 hours. TWA: 0.5 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** **Absorbed through skin.** TWA: 5 mg/m³ 8 hours. TWA: 0.5 ppm 8 hours.
bromodichloromethane	None.
α-chlorotoluene	**ACGIH TLV (United States, 3/2017).** TWA: 5.2 mg/m³ 8 hours. TWA: 1 ppm 8 hours. **NIOSH REL (United States, 10/2016).** CEIL: 5 mg/m³ 15 minutes. CEIL: 1 ppm 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 5 mg/m³ 8 hours. TWA: 1 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 5 mg/m³ 8 hours. TWA: 1 ppm 8 hours.
1,4-dichlorobenzene	**ACGIH TLV (United States, 3/2017).** TWA: 60 mg/m³ 8 hours. TWA: 10 ppm 8 hours. **OSHA PEL (United States, 6/2016).** TWA: 450 mg/m³ 8 hours. TWA: 75 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 675 mg/m³ 15 minutes. STEL: 110 ppm 15 minutes. TWA: 450 mg/m³ 8 hours. TWA: 75 ppm 8 hours.
1,3-dichlorbenzene	None.
1,3-butadiene	**ACGIH TLV (United States, 3/2017).** TWA: 4.4 mg/m³ 8 hours. TWA: 2 ppm 8 hours. **OSHA PEL (United States, 6/2016).** STEL: 5 ppm 15 minutes. TWA: 1 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 5 ppm 15 minutes. TWA: 1 ppm 8 hours.
1,2,4-trichlorobenzene	**ACGIH TLV (United States, 3/2017).** C: 5 ppm C: 37 mg/m³

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	OSHA PEL 1989 (United States, 3/1989). CEIL: 5 ppm CEIL: 40 mg/m³ **NIOSH REL (United States, 10/2016).** CEIL: 5 ppm CEIL: 40 mg/m³
1,1-dichloroethane	**ACGIH TLV (United States, 3/2017).** TWA: 405 mg/m³ 8 hours. TWA: 100 ppm 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 400 mg/m³ 10 hours. TWA: 100 ppm 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 400 mg/m³ 8 hours. TWA: 100 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 400 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
1,1-dichloroethylene	**ACGIH TLV (United States, 3/2017).** TWA: 5 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 4 mg/m³ 8 hours. TWA: 1 ppm 8 hours.
1,1,1-trichloroethane	**ACGIH TLV (United States, 3/2017).** STEL: 2460 mg/m³ 15 minutes. STEL: 450 ppm 15 minutes. TWA: 1910 mg/m³ 8 hours. TWA: 350 ppm 8 hours. **NIOSH REL (United States, 10/2016).** CEIL: 1900 mg/m³ 15 minutes. CEIL: 350 ppm 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 1900 mg/m³ 8 hours. TWA: 350 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 2450 mg/m³ 15 minutes. STEL: 450 ppm 15 minutes. TWA: 1900 mg/m³ 8 hours. TWA: 350 ppm 8 hours.
1,1,2-trichloroethane	**ACGIH TLV (United States, 3/2017).** **Absorbed through skin.** TWA: 55 mg/m³ 8 hours. TWA: 10 ppm 8 hours. **NIOSH REL (United States, 10/2016).** **Absorbed through skin.** TWA: 45 mg/m³ 10 hours. TWA: 10 ppm 10 hours. **OSHA PEL (United States, 6/2016).** **Absorbed through skin.** TWA: 45 mg/m³ 8 hours. TWA: 10 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** **Absorbed through skin.** TWA: 45 mg/m³ 8 hours. TWA: 10 ppm 8 hours.
1,1,2,2-tetrachloroethane	**ACGIH TLV (United States, 3/2017).** **Absorbed through skin.** TWA: 1 ppm 8 hours. **NIOSH REL (United States, 10/2016).** **Absorbed through skin.** TWA: 7 mg/m³ 10 hours.

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	TWA: 1 ppm 10 hours. **OSHA PEL (United States, 6/2016).** **Absorbed through skin.** TWA: 35 mg/m³ 8 hours. TWA: 5 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** **Absorbed through skin.** TWA: 7 mg/m³ 8 hours. TWA: 1 ppm 8 hours.
1,2-dibromoethane	**OSHA PEL 1989 (United States, 3/1989).** TWA: 20 ppm 8 hours. CEIL: 30 ppm AMP: 50 ppm 5 minutes. **OSHA PEL Z2 (United States, 2/2013).** TWA: 20 ppm 8 hours. CEIL: 30 ppm AMP: 50 ppm 5 minutes. **NIOSH REL (United States, 10/2016).** TWA: 0.045 ppm 10 hours. CEIL: 0.13 ppm 15 minutes. **ACGIH TLV (United States, 3/2017).** **Absorbed through skin.**
1,2-dichloroethane	**ACGIH TLV (United States, 3/2017).** TWA: 40 mg/m³ 8 hours. TWA: 10 ppm 8 hours. **NIOSH REL (United States, 10/2016).** STEL: 8 mg/m³ 15 minutes. STEL: 2 ppm 15 minutes. TWA: 4 mg/m³ 10 hours. TWA: 1 ppm 10 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 8 mg/m³ 15 minutes. STEL: 2 ppm 15 minutes. TWA: 4 mg/m³ 8 hours. TWA: 1 ppm 8 hours. **OSHA PEL Z2 (United States, 2/2013).** AMP: 200 ppm 5 minutes. CEIL: 100 ppm TWA: 50 ppm 8 hours.
1,2-dichlorobenzene	**ACGIH TLV (United States, 3/2017).** TWA: 25 ppm 8 hours. TWA: 150 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 301 mg/m³ 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** CEIL: 50 ppm CEIL: 300 mg/m³ **NIOSH REL (United States, 10/2016).** CEIL: 50 ppm CEIL: 300 mg/m³ **OSHA PEL (United States, 6/2016).** CEIL: 50 ppm CEIL: 300 mg/m³
1,4-dioxane	**OSHA PEL 1989 (United States, 3/1989).** **Absorbed through skin.** TWA: 25 ppm 8 hours. TWA: 90 mg/m³ 8 hours. **NIOSH REL (United States, 10/2016).** CEIL: 1 ppm 30 minutes. CEIL: 3.6 mg/m³ 30 minutes. **ACGIH TLV (United States, 3/2017).**

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	Absorbed through skin. TWA: 20 ppm 8 hours. **OSHA PEL (United States, 6/2016).** **Absorbed through skin.** TWA: 100 ppm 8 hours. TWA: 360 mg/m³ 8 hours.
4-ethyltoluene	None.
acetone	**ACGIH TLV (United States, 3/2017).** STEL: 500 ppm 15 minutes. TWA: 250 ppm 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 590 mg/m³ 10 hours. TWA: 250 ppm 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 2400 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 2400 mg/m³ 15 minutes. STEL: 1000 ppm 15 minutes. TWA: 1800 mg/m³ 8 hours. TWA: 750 ppm 8 hours.
1,1,2-Trichlorotrifluoroethane	**ACGIH TLV (United States, 3/2017).** TWA: 1000 ppm 8 hours. TWA: 7670 mg/m³ 8 hours. STEL: 1250 ppm 15 minutes. STEL: 9590 mg/m³ 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1000 ppm 8 hours. TWA: 7600 mg/m³ 8 hours. STEL: 1250 ppm 15 minutes. STEL: 9500 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2016).** TWA: 1000 ppm 10 hours. TWA: 7600 mg/m³ 10 hours. STEL: 1250 ppm 15 minutes. STEL: 9500 mg/m³ 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 1000 ppm 8 hours. TWA: 7600 mg/m³ 8 hours.
1,2-dichlorotetrafluoroethane	**ACGIH TLV (United States, 3/2017).** TWA: 6990 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 7000 mg/m³ 10 hours. TWA: 1000 ppm 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 7000 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 7000 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.
Methane, dichlorodifluoro-	**ACGIH TLV (United States, 3/2017).** TWA: 4950 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 4950 mg/m³ 10 hours. TWA: 1000 ppm 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 4950 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).**

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	TWA: 4950 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.
tetrahydrofuran	**ACGIH TLV (United States, 3/2017).** **Absorbed through skin.** STEL: 100 ppm 15 minutes. TWA: 50 ppm 8 hours. **NIOSH REL (United States, 10/2016).** STEL: 735 mg/m³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 590 mg/m³ 10 hours. TWA: 200 ppm 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 590 mg/m³ 8 hours. TWA: 200 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 735 mg/m³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 590 mg/m³ 8 hours. TWA: 200 ppm 8 hours.
styrene	**ACGIH TLV (United States, 3/2017).** STEL: 170 mg/m³ 15 minutes. STEL: 40 ppm 15 minutes. TWA: 85 mg/m³ 8 hours. TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2016).** STEL: 425 mg/m³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 215 mg/m³ 10 hours. TWA: 50 ppm 10 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 425 mg/m³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 215 mg/m³ 8 hours. TWA: 50 ppm 8 hours. **OSHA PEL Z2 (United States, 2/2013).** AMP: 600 ppm 5 minutes. CEIL: 200 ppm TWA: 100 ppm 8 hours.
1,2-dichloropropane	**ACGIH TLV (United States, 3/2017). Skin sensitizer.** TWA: 10 ppm 8 hours. **OSHA PEL (United States, 6/2016).** TWA: 350 mg/m³ 8 hours. TWA: 75 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 510 mg/m³ 15 minutes. STEL: 110 ppm 15 minutes. TWA: 350 mg/m³ 8 hours. TWA: 75 ppm 8 hours.
bromomethane	**ACGIH TLV (United States, 3/2017).** **Absorbed through skin.** TWA: 3.9 mg/m³ 8 hours. TWA: 1 ppm 8 hours. **OSHA PEL (United States, 6/2016).** **Absorbed through skin.** CEIL: 80 mg/m³ CEIL: 20 ppm **OSHA PEL 1989 (United States, 3/1989).** **Absorbed through skin.** TWA: 20 mg/m³ 8 hours. TWA: 5 ppm 8 hours.

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dibromochloromethane	None.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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.

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.

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.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. 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.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : -210.01°C (-346°F) This is based on data for the following ingredient: nitrogen.

Boiling point : Not available.

Critical temperature : Lowest known value: -146.95°C (-232.5°F) (nitrogen).

Flash point : Not available.

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Section 9. Physical and chemical properties

Vapor pressure : Not available.

Vapor density : Highest known value: 0.97 (Air = 1) (nitrogen).

Gas Density (lb/ft ^{3}) : Only known value: 0.072 (nitrogen).

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.

Viscosity : Not applicable.

Flow time (ISO 2431) : Not available.

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 : No specific data.

Incompatible materials : No specific data.

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

Product/ingredient name	Result	Species	Dose	Exposure
1,2,4-trimethylbenzene	LC50 Inhalation Vapor	Rat	18000 mg/m³	4 hours
	LD50 Oral	Rat	5 g/kg	-
1,3,5-Trimethylbenzene	LC50 Inhalation Vapor	Rat	24000 mg/m³	4 hours
	LD50 Oral	Rat	5000 mg/kg	-
benzene	LC50 Inhalation Gas.	Rat	10000 ppm	7 hours
	LD50 Oral	Rat	930 mg/kg	-
ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
n-hexane	LC50 Inhalation Gas.	Rat	48000 ppm	4 hours
	LC50 Inhalation Vapor	Rat	96000 ppm	1 hours
	LD50 Oral	Rat	15840 mg/kg	-
m-xylene	LD50 Oral	Rat	4988 mg/kg	-
heptane	LC50 Inhalation Gas.	Rat	48000 ppm	4 hours
	LC50 Inhalation Vapor	Rat	50242 ppm	1 hours
	LC50 Inhalation Vapor	Rat	103 g/m³	4 hours
o-xylene	LC50 Inhalation Gas.	Mouse	8736 ppm	1 hours
	LC50 Inhalation Gas.	Rat	13400 ppm	1 hours
	LD50 Oral	Rat	3567 mg/kg	-

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p-xylene	LC50 Inhalation Gas.	Rat	9100 ppm	1 hours
	LC50 Inhalation Gas.	Rat	4550 ppm	4 hours
	LD50 Oral	Rat	3910 mg/kg	-
toluene	LC50 Inhalation Vapor	Rat	28830 ppm	1 hours
	LC50 Inhalation Vapor	Rat	49 g/m³	4 hours
vinyl acetate	LC50 Inhalation Gas.	Rat	22800 mg/m³	1 hours
	LC50 Inhalation Vapor	Rat	11400 mg/m³	4 hours
	LD50 Dermal	Rabbit	2335 mg/kg	-
	LD50 Oral	Rat	2900 mg/kg	-
trans-dichloroethylene	LC50 Inhalation Gas.	Rat	24100 ppm	4 hours
	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	1235 mg/kg	-
trichloroethylene	LC50 Inhalation Vapor	Rat	140700 mg/m³	1 hours
	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Oral	Rat	4920 mg/kg	-
Methane, trichlorofluoro-	LC50 Inhalation Gas.	Rat	104800 ppm	1 hours
tetrachloroethylene	LC50 Inhalation Vapor	Rat	14255 ppm	1 hours
	LD50 Oral	Rat	2629 mg/kg	-
dichloromethane	LC50 Inhalation Vapor	Rat	76000 mg/m³	4 hours
tert-butyl methyl ether	LC50 Inhalation Gas.	Rat	47152 ppm	1 hours
	LC50 Inhalation Gas.	Rat	23576 ppm	4 hours
	LC50 Inhalation Vapor	Rat	41000 mg/m³	4 hours
	LD50 Oral	Rat	4 g/kg	-
4-methylpentan-2-one	LD50 Oral	Rat	2080 mg/kg	-
Methyl Ethyl Ketone	LC50 Inhalation Gas.	Rat	22527 ppm	1 hours
	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
Methyl Chloride	LC50 Inhalation Gas.	Rat	8300 ppm	4 hours
hexan-2-one	LC50 Inhalation Gas.	Rat	8000 ppm	4 hours
	LD50 Dermal	Rabbit	4800 mg/kg	-
	LD50 Oral	Rat	2590 mg/kg	-
Isopropyl alcohol	LC50 Inhalation Gas.	Rat	45248 ppm	1 hours
	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
hexachlorobuta-1,3-diene	LC50 Inhalation Vapor	Rat	630 mg/m³	4 hours
	LD50 Dermal	Rabbit	100 mg/kg	-
	LD50 Dermal	Rat	4500 mg/kg	-
	LD50 Oral	Rat	82 mg/kg	-
ethyl acetate	LD50 Oral	Rat	5620 mg/kg	-
cyclohexane	LD50 Oral	Rat	6240 mg/kg	-
Chloroform	LC50 Inhalation Gas.	Rat	19470 ppm	1 hours
	LC50 Inhalation Vapor	Rat	47702 mg/m³	4 hours
	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Oral	Rat	300 mg/kg	-
chlorobenzene	LD50 Dermal	Rabbit	>7940 mg/kg	-
	LD50 Oral	Rat	500 mg/kg	-
carbon tetrachloride	LC50 Inhalation Gas.	Rat	8000 ppm	4 hours
	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Dermal	Rat	5070 mg/kg	-
	LD50 Oral	Rat	2350 mg/kg	-
bromoform	LD50 Oral	Rat	933 mg/kg	-
bromodichloromethane	LD50 Oral	Rat	430 mg/kg	-
α-chlorotoluene	LC50 Inhalation Vapor	Rat	212.1 ppm	1 hours
	LD50 Oral	Rat	1231 mg/kg	-
1,4-dichlorobenzene	LC50 Inhalation Vapor	Rat	5000 mg/m³	4 hours
	LD50 Dermal	Rat	2000 mg/kg	-
	LD50 Oral	Rat	500 mg/kg	-
1,3-dichlorbenzene	LD50 Oral	Rat	1100 mg/kg	-
1,3-butadiene	LC50 Inhalation Gas.	Rat	128000 ppm	4 hours
1,2,4-trichlorobenzene	LD50 Dermal	Rat	6139 mg/kg	-
	LD50 Oral	Rat	756 mg/kg	-
1,1-dichloroethane	LC50 Inhalation Gas.	Rat	13000 ppm	4 hours
	LD50 Oral	Rat	725 mg/kg	-
1,1-dichloroethylene	LC50 Inhalation Gas.	Rat	12700 ppm	1 hours

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	LC50 Inhalation Gas.	Rat	6350 ppm	4 hours
	LD50 Oral	Rat	200 mg/kg	-
1,1,1-trichloroethane	LC50 Inhalation Gas.	Rat	36000 ppm	1 hours
	LC50 Inhalation Gas.	Rat	17000 ppm	4 hours
	LD50 Oral	Rat	9600 mg/kg	-
1,1,2-trichloroethane	LD50 Oral	Rat	580 mg/kg	-
1,1,2,2-tetrachloroethane	LC50 Inhalation Vapor	Rat	8600 mg/m³	4 hours
	LD50 Dermal	Rabbit	3990 mg/kg	-
	LD50 Oral	Rat	200 mg/kg	-
1,2-dibromoethane	LC50 Inhalation Gas.	Rat	700 ppm	1 hours
	LC50 Inhalation Vapor	Rat	14300 ppm	1 hours
	LD50 Dermal	Rabbit	300 mg/kg	-
	LD50 Dermal	Rat	300 mg/kg	-
	LD50 Oral	Rat	108 mg/kg	-
1,2-dichloroethane	LC50 Inhalation Gas.	Rat	2646 ppm	1 hours
1,2-dichlorobenzene	LC50 Inhalation Vapor	Rat	8150 mg/m³	4 hours
	LD50 Dermal	Rabbit	>10 g/kg	-
	LD50 Oral	Rat	500 mg/kg	-
1,4-dioxane	LD50 Oral	Rat	4200 mg/kg	-
4-ethyltoluene	LD50 Oral	Rat	4850 mg/kg	-
acetone	LC50 Inhalation Vapor	Rat	59528 ppm	1 hours
	LD50 Oral	Rat	5800 mg/kg	-
1,1,2-Trichlorotrifluoroethane	LC50 Inhalation Gas.	Rat	155540 ppm	1 hours
	LC50 Inhalation Gas.	Rat	38000 ppm	4 hours
	LD50 Oral	Rat	43 g/kg	-
tetrahydrofuran	LD50 Oral	Rat	1650 mg/kg	-
styrene	LC50 Inhalation Gas.	Rat	5634 ppm	1 hours
	LC50 Inhalation Gas.	Rat	2770 ppm	4 hours
	LC50 Inhalation Vapor	Rat	11800 mg/m³	4 hours
	LD50 Oral	Rat	2650 mg/kg	-
1,2-dichloropropane	LC50 Inhalation Gas.	Rat	8558 ppm	1 hours
	LC50 Inhalation Gas.	Rat	2000 ppm	4 hours
	LD50 Dermal	Rabbit	8750 mg/kg	-
	LD50 Oral	Rat	1900 mg/kg	-
bromomethane	LC50 Inhalation Gas.	Rat	850 ppm	1 hours
dibromochloromethane	LD50 Oral	Rat	370 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
1,3,5-Trimethylbenzene	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
benzene	Eyes - Moderate irritant	Rabbit	-	88 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
n-hexane	Eyes - Mild irritant	Rabbit	-	10 milligrams	-
m-xylene	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 10 Micrograms	-

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toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	870 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Pig	-	24 hours 250 microliters	-
	Skin - Mild irritant	Rabbit	-	435 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
trans-dichloroethylene	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
trichloroethylene	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
tetrachloroethylene	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	162 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 810 milligrams	-
dichloromethane	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	10 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	162 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 810 milligrams	-
4-methylpentan-2-one	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters	-
	Eyes - Severe irritant	Rabbit	-	40 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Methyl Ethyl Ketone	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
hexan-2-one	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Isopropyl alcohol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
hexachlorobuta-1,3-diene	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	162 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500	-

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				milligrams	
	Skin - Moderate irritant	Rabbit	-	24 hours 810 milligrams	-
ethanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	0.066666667 minutes 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	400 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
Chloroform	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
carbon tetrachloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	0.5 minutes 2200 Micrograms	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	4 milligrams	-
1,2,4-trichlorobenzene	Skin - Moderate irritant	Rabbit	-	2184 hours 1950 milligrams Intermittent	-
1,1,1-trichloroethane	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Rabbit	-	288 hours 5 Grams Intermittent	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
1,1,2-trichloroethane	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	162 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 810 milligrams	-
1,1,2,2-tetrachloroethane	Skin - Severe irritant	Rabbit	-	0.01 Milliliters	-
1,2-dibromoethane	Skin - Severe irritant	Human	-	2 hours 1538 milligrams	-
	Skin - Severe irritant	Rabbit	-	336 hours 1 Percent	-
1,2-dichloroethane	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Severe irritant	Rabbit	-	63 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	625 milligrams	-
1,2-dichlorobenzene	Eyes - Mild irritant	Rabbit	-	0.5 minutes	-

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				100 milligrams	
1,4-dioxane	Eyes - Moderate irritant	Guinea pig	-	10 Micrograms	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	515 milligrams	-
acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
1,1,2-Trichlorotrifluoroethane	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
styrene	Eyes - Mild irritant	Human	-	50 parts per million	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
1,2-dichloropropane	Eyes - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	0.5 Mililiters	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
benzene	+	1	Known to be a human carcinogen.
ethylbenzene	-	2B	-
m-xylene	-	3	-
o-xylene	-	3	-
p-xylene	-	3	-
toluene	-	3	-
vinyl chloride	+	1	Known to be a human carcinogen.
vinyl acetate	-	2B	-
trichloroethylene	-	1	Known to be a human carcinogen.
propylene	-	3	-
tetrachloroethylene	-	2A	Reasonably anticipated to be a human carcinogen.
dichloromethane	+	2A	Reasonably anticipated to be a human carcinogen.
tert-butyl methyl ether	-	3	-
4-methylpentan-2-one	-	2B	-
Methyl Chloride	-	3	-

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Isopropyl alcohol	-	3	-
hexachlorobuta-1,3-diene	-	3	-
Ethyl chloride	-	3	-
ethanol	-	1	-
Chloroform	-	2B	Reasonably anticipated to be a human carcinogen.
carbon tetrachloride	-	2B	Reasonably anticipated to be a human carcinogen.
bromoform	-	3	-
bromodichloromethane	-	2B	Reasonably anticipated to be a human carcinogen.
α-chlorotoluene	-	2A	-
1,4-dichlorobenzene	-	2B	Reasonably anticipated to be a human carcinogen.
1,3-dichlorbenzene	-	3	-
1,3-butadiene	-	1	Known to be a human carcinogen.
1,1-dichloroethylene	-	2B	-
1,1,1-trichloroethane	-	3	-
1,1,2-trichloroethane	-	3	-
1,1,2,2-tetrachloroethane	-	2B	-
1,2-dibromoethane	-	2A	Reasonably anticipated to be a human carcinogen.
1,2-dichloroethane	-	2B	Reasonably anticipated to be a human carcinogen.
1,2-dichlorobenzene	-	3	-
1,4-dioxane	-	2B	Reasonably anticipated to be a human carcinogen.
tetrahydrofuran	-	2B	-
styrene	-	2B	Reasonably anticipated to be a human carcinogen.
1,2-dichloropropane	-	1	-
bromomethane	-	3	-
dibromochloromethane	-	3	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
1,2,4-trimethylbenzene	Category 3	Not applicable.	Respiratory tract irritation
1,3,5-Trimethylbenzene	Category 3	Not applicable.	Respiratory tract irritation
n-hexane	Category 3	Not applicable.	Narcotic effects
heptane	Category 3	Not applicable.	Narcotic effects
toluene	Category 3	Not applicable.	Narcotic effects
Methyl Ethyl Ketone	Category 3	Not applicable.	Narcotic effects
Isopropyl alcohol	Category 3	Not applicable.	Narcotic effects
ethyl acetate	Category 3	Not applicable.	Narcotic effects
cyclohexane	Category 3	Not applicable.	Narcotic effects
(Z)-1,3-dichloropropene	Category 3	Not applicable.	Respiratory tract irritation
α-chlorotoluene	Category 3	Not applicable.	Respiratory tract irritation
1,2-dichloroethane	Category 3	Not applicable.	Respiratory tract irritation
1,2-dichlorobenzene	Category 3	Not applicable.	Respiratory tract irritation
4-ethyltoluene	Category 3	Not applicable.	Narcotic effects
acetone	Category 3	Not applicable.	Narcotic effects
tetrahydrofuran	Category 3	Not applicable.	Respiratory tract irritation
bromomethane	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

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Name	Category	Route of exposure	Target organs
benzene	Category 1	Not determined	Not determined
ethylbenzene	Category 2	Not determined	Not determined
n-hexane	Category 2	Not determined	Not determined
toluene	Category 2	Not determined	Not determined
vinyl chloride	Category 2	Not determined	liver
Methyl Chloride	Category 2	Not determined	central nervous system (CNS)
Chloroform	Category 2	Not determined	Not determined
carbon tetrachloride	Category 1	Not determined	Not determined
carbon disulphide	Category 1	Not determined	Not determined
α-chlorotoluene	Category 2	Not determined	Not determined
bromomethane	Category 2	Not determined	central nervous system (CNS) and kidneys

Aspiration hazard

Name	Result
ethylbenzene	ASPIRATION HAZARD - Category 1
cyclohexane	ASPIRATION HAZARD - Category 1
(Z)-1,3-dichloropropene	ASPIRATION HAZARD - Category 1
4-ethyltoluene	ASPIRATION HAZARD - Category 1

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.

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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.

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Toxicity

Product/ingredient name	Result	Species	Exposure
1,2,4-trimethylbenzene	Acute LC50 4910 µg/l Marine water	Crustaceans - Elasmopus pectenicrus - Adult	48 hours
	Acute LC50 7720 µg/l Fresh water	Fish - Pimephales promelas	96 hours
1,3,5-Trimethylbenzene	Acute LC50 13000 µg/l Marine water	Crustaceans - Cancer magister - Zoea	48 hours
	Acute LC50 12520 µg/l Fresh water	Fish - Carassius auratus	96 hours
	Chronic NOEC 400 µg/l Fresh water	Daphnia - Daphnia magna	21 days
benzene	Acute EC50 29000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 1600000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute EC50 9230 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 21 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 5.28 ul/L Fresh water	Fish - Oncorhynchus gorbuscha - Fry	96 hours
	Chronic EC10 >1360 mg/l Fresh water	Algae - Scenedesmus subspicatus	96 hours
	Chronic NOEC 98 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 1.5 to 5.4 ul/L Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	4 weeks
ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
n-hexane	Acute LC50 2500 µg/l Fresh water	Fish - Pimephales promelas	96 hours
m-xylene	Acute EC50 4900 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 5770 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 3530 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 8400 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
heptane	Acute LC50 375000 µg/l Fresh water	Fish - Oreochromis mossambicus	96 hours
o-xylene	Acute EC50 4700 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 10700 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 1390 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 7600 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
p-xylene	Acute EC50 3200 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 4730 µg/l Fresh water	Daphnia - Daphnia magna -	48 hours

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		Neonate	
	Acute LC50 2 ul/L Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
toluene	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
vinyl acetate	Acute LC50 10000 to 100000 µg/l Marine water	Crustaceans - Crangon crangon - Larvae	48 hours
	Acute LC50 14000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
trans-dichloroethylene	Acute LC50 220000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
trichloroethylene	Acute EC50 95000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 36.5 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute LC50 20 mg/l Marine water	Crustaceans - Elminius modestus	48 hours
	Acute LC50 18000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 3100 µg/l Fresh water	Fish - Jordanella floridae - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 0.02 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Chronic NOEC 2.3 mg/l Fresh water	Daphnia - Daphnia magna	21 days
tetrachloroethylene	Acute EC50 504 ppm Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 3.64 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute EC50 7.49 mg/l Fresh water	Daphnia - Daphnia magna - Instar	48 hours
	Acute LC50 3.5 mg/l Marine water	Crustaceans - Elminius modestus	48 hours
	Acute LC50 4000 µg/l Fresh water	Fish - Jordanella floridae - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 0.01 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Chronic NOEC 0.4 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 500 µg/l Fresh water	Fish - Pimephales promelas - Larvae	32 days
dichloromethane	Acute EC50 242 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute EC50 0.98 mg/l Fresh water	Algae - Chlorella vulgaris	96 hours
	Acute EC50 99000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 108500 µg/l Marine water	Crustaceans - Palaemonetes pugio - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 220000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Chronic NOEC 56000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
tert-butyl methyl ether	Acute LC50 672000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
4-methylpentan-2-one	Acute LC50 505000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 78 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 168 mg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days
Methyl Ethyl Ketone	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

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Methyl Chloride	Acute LC50 270000 µg/l Marine water	Fish - Menidia beryllina	96 hours
hexan-2-one	Acute LC50 428000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Isopropyl alcohol	Acute EC50 10100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1400000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 4200 mg/l Fresh water	Fish - Rasbora heteromorpha	96 hours
hexachlorobuta-1,3-diene	Acute LC50 0.87 mg/l Marine water	Crustaceans - Elminius modestus	48 hours
	Acute LC50 90 µg/l Fresh water	Fish - Carassius auratus	96 hours
ethyl acetate	Acute EC50 2500000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 750000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 154000 µg/l Fresh water	Daphnia - Daphnia cucullata	48 hours
	Acute LC50 212500 µg/l Fresh water	Fish - Heteropneustes fossilis	96 hours
	Chronic NOEC 2400 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 75.6 mg/l Fresh water	Fish - Pimephales promelas - Embryo	32 days
ethanol	Acute EC50 17.921 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 2000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 25500 µg/l Marine water	Crustaceans - Artemia franciscana - Larvae	48 hours
	Acute LC50 42000 µg/l Fresh water	Fish - Oncorhynchus mykiss	4 days
	Chronic NOEC 4.995 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 100 ul/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 0.375 ul/L Fresh water	Fish - Gambusia holbrooki - Larvae	12 weeks
cyclohexane	Acute LC50 4530 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Chloroform	Acute EC50 13.3 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute EC50 2.803 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute LC50 29000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 13.3 ppm Fresh water	Fish - Lepomis macrochirus	96 hours
	Chronic EC10 3.61 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Chronic NOEC 1.8 mg/l Fresh water	Daphnia - Daphnia magna	21 days
chlorobenzene	Acute EC50 19.6 mg/l Fresh water	Algae - Phaeodactylum tricornutum	72 hours
	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute LC50 7900 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 8600 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 2370 µg/l Fresh water	Fish - Carassius auratus - Egg	96 hours
	Chronic NOEC 2 mg/kg Fresh water	Fish - Carassius auratus	30 days
carbon tetrachloride	Acute EC50 0.246 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute EC50 180.54 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute LC50 35000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 10400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic EC10 0.0717 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
carbon disulphide	Acute EC50 21000 µg/l Fresh water	Algae - Chlorella pyrenoidosa	96 hours
	Acute LC50 2100 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 2.99 mg/l Fresh water	Fish - Poecilia reticulata - Young	96 hours
bromoform	Acute EC50 13.5 ppm Marine water	Algae - Skeletonema costatum	72 hours
	Acute EC50 11.5 ppm Marine water	Algae - Skeletonema costatum	96 hours
	Acute LC50 60.1 ppm Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 46000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 7.1 mg/l Marine water	Fish - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling,	96 hours

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		Weanling)	
	Chronic NOEC 10000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
α-chlorotoluene	Acute LC50 4400 µg/l Marine water	Crustaceans - Penaeus setiferus	48 hours
	Acute LC50 4000 µg/l Fresh water	Fish - Danio rerio	96 hours
1,4-dichlorobenzene	Acute EC50 50.6 ppm Marine water	Algae - Skeletonema costatum	72 hours
	Acute EC50 1600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 0.7 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute EC50 1.1 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 5.35 ppm Marine water	Crustaceans - Americamysis bahia	48 hours
	Chronic NOEC 5 mg/l Fresh water	Algae - Chlorella pyrenoidosa - Exponential growth phase	3 days
	Chronic NOEC 300 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.16 mg/kg Fresh water	Fish - Carassius auratus	30 days
1,3-dichlorbenzene	Acute EC50 62.3 ppm Marine water	Algae - Skeletonema costatum	72 hours
	Acute EC50 49.6 ppm Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 1200 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5.14 ppm Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 5 mg/l Fresh water	Fish - Lepomis macrochirus - Young of the year	96 hours
	Chronic NOEC 32000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Chronic NOEC 500 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.8 mg/kg Fresh water	Fish - Carassius auratus	30 days
1,2,4-trichlorobenzene	Acute EC50 1400 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute LC50 1.68 mg/l Fresh water	Daphnia - Daphnia magna - Instar	48 hours
	Acute LC50 772.96 µg/l Fresh water	Fish - Cyprinodon variegatus	96 hours
	Chronic EC10 3 mg/l Fresh water	Algae - Scenedesmus subspicatus	96 hours
	Chronic NOEC 0.2 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 150 µg/l Fresh water	Fish - Cyprinodon variegatus	33 days
1,1-dichloroethylene	Acute EC50 9.12 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute EC50 410000 µg/l Fresh water	Algae - Scenedesmus abundans	96 hours
	Acute LC50 >798 ppm Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 11600 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 74 mg/l Fresh water	Fish - Lepomis macrochirus - Young of the year	96 hours
	Chronic EC10 3.94 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
1,1,1-trichloroethane	Acute EC50 0.536 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute EC50 11100 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 56.6 ppm Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 11.2 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Chronic EC10 0.213 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
1,1,2-trichloroethane	Acute EC50 60000 µg/l Marine water	Algae - Phaeodactylum tricornutum	96 hours
	Acute EC50 57 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute LC50 62000 µg/l Marine water	Crustaceans - Artemia salina - Larvae	48 hours

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	Acute LC50 18000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 40 mg/l Fresh water	Fish - Lepomis macrochirus - Young of the year	96 hours
	Chronic EC10 26.3 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Chronic NOEC 6000 µg/l Fresh water	Fish - Pimephales promelas - Larvae	32 days
1,1,2,2-tetrachloroethane	Acute EC50 7.02 ppm Marine water	Algae - Skeletonema costatum	72 hours
	Acute EC50 6.23 ppm Marine water	Algae - Skeletonema costatum	96 hours
	Acute LC50 11 ppm Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 9300 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 12 ppm Marine water	Fish - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 1400 µg/l Fresh water	Fish - Pimephales promelas - Larvae	32 days
1,2-dibromoethane	Acute LC50 3.61 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia	48 hours
	Acute LC50 6.5 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 4.3 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 0.133 mg/l Fresh water	Fish - Oryzias latipes	58 weeks
1,2-dichloroethane	Acute EC50 189 ppm Fresh water	Algae - Scenedesmus subspicatus	72 hours
	Acute EC50 155 mg/l Fresh water	Daphnia - Daphnia magna - Instar	48 hours
	Acute LC50 110 ppm Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 115 mg/l Marine water	Fish - Pleuronectiformes	96 hours
	Chronic NOEC 29000 µg/l Fresh water	Fish - Pimephales promelas - Larvae	32 days
1,2-dichlorobenzene	Acute EC50 12.8 mg/l Fresh water	Algae - Phaeodactylum tricornutum	72 hours
	Acute EC50 2200 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 740 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 4.52 ppm Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 1.4 mg/l Fresh water	Fish - Gibelion catla	96 hours
	Chronic NOEC 630 µg/l Fresh water	Daphnia - Daphnia magna	21 days
1,4-dioxane	Acute LC50 6700000 µg/l Marine water	Fish - Menidia beryllina	96 hours
acetone	Acute EC50 20.565 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days
tetrahydrofuran	Acute LC50 2160000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 367 mg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days
styrene	Acute EC50 1400 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 720 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 4700 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 52 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 4020 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 63 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
1,2-dichloropropane	Acute EC50 83000 µg/l Fresh water	Algae - Chlamydomonas	4 days

Section 12. Ecological information

		reinhardtii	
	Acute EC50 168 ppm Fresh water	Algae - Scenedesmus subspicatus	72 hours
	Acute LC50 53 mg/l Marine water	Crustaceans - Elminius modestus	48 hours
	Acute LC50 52000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 61 mg/l Marine water	Fish - Pleuronectiformes	96 hours
	Chronic NOEC 38000 µg/l Fresh water	Algae - Chlamydomonas reinhardtii	4 days
bromomethane	Acute EC50 1700 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute EC50 0.6 µg/l Fresh water	Fish - Poecilia reticulata	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Nitrogen	0.67	-	low
1,2,4-trimethylbenzene	3.63	243	low
1,3,5-Trimethylbenzene	3.42	161	low
benzene	2.13	11	low
ethylbenzene	3.6	-	low
n-hexane	4	501.187	high
m-xylene	3.2	8.1 to 25.9	low
heptane	4.66	552	high
o-xylene	3.12	8.1 to 25.9	low
p-xylene	3.15	8.1 to 25.9	low
toluene	2.73	90	low
vinyl chloride	1.38	-	low
vinyl acetate	0.73	3.16	low
TRANS-D	2.03	-	low
trans-dichloroethylene	2.09	-	low
trichloroethylene	2.53	17	low
Methane, trichlorofluoro-	2.53	-	low
propylene	1.77	-	low
tetrachloroethylene	2.53	49	low
dichloromethane	1.25	22.91	low
tert-butyl methyl ether	1.04	1.5	low
4-methylpentan-2-one	1.9	-	low
Methyl Ethyl Ketone	0.3	-	low
Methyl Chloride	0.91	-	low
hexan-2-one	1.38	-	low
Isopropyl alcohol	0.05	-	low
hexachlorobuta-1,3-diene	4.78	6606.93	high
Ethyl chloride	1.43	-	low
ethyl acetate	0.68	30	low
ethanol	-0.35	-	low
cyclohexane	3.44	167	low
(Z)-1,3-dichloropropene	1.82	-	low
cis-dichloroethylene	1.86	-	low
Chloroform	1.97	690	high
chlorobenzene	2.46	4.3 to 40	low
carbon tetrachloride	2.83	49.9 to 75.1	low
carbon disulphide	1.94	19.5	low
bromoform	2.4	13.49	low
bromodichloromethane	2	-	low
α-chlorotoluene	2.3	-	low
1,4-dichlorobenzene	3.37	296	low
1,3-dichlorbenzene	3.53	213.8	low
1,3-butadiene	1.99	10	low
1,2,4-trichlorobenzene	4.05	2089.3	high
1,1-dichloroethane	1.79	-	low

Section 12. Ecological information

1,1-dichloroethylene	2.13	12.88	low
1,1,1-trichloroethane	2.49	9	low
1,1,2-trichloroethane	1.89	5.01	low
1,1,2,2-tetrachloroethane	2.39	12.88	low
1,2-dibromoethane	2.011	15.14	low
1,2-dichloroethane	1.45	2	low
1,2-dichlorobenzene	3.38	150 to 230	low
1,4-dioxane	-0.42	0.3 to 0.7	low
4-ethyltoluene	3.63	-	low
acetone	-0.23	-	low
1,1,2-Trichlorotrifluoroethane	3.16	50.12	low
1,2-dichlorotetrafluoroethane	2.82	-	low
Methane, dichlorodifluoro-	2.16	6.17	low
tetrahydrofuran	0.45	-	low
styrene	0.35	13.49	low
1,2-dichloropropane	1.99 to 2.28	1.2 to 3.2	low
bromomethane	1.99	-	low
dibromochloromethane	2.16	-	low

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

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1956	UN1956	UN1956	UN1956	UN1956
UN proper shipping name	COMPRESSED GAS, N.O.S. COMPRESSED GAS, N.O.S. (nitrogen, vinyl chloride)	COMPRESSED GAS, N.O.S. COMPRESSED GAS, N.O.S. (nitrogen, vinyl chloride)	COMPRESSED GAS, N.O.S. COMPRESSED GAS, N.O.S. (nitrogen, vinyl chloride)	COMPRESSED GAS, N.O.S. COMPRESSED GAS, N.O.S. (nitrogen, vinyl chloride)	COMPRESSED GAS, N.O.S. COMPRESSED GAS, N.O.S. (nitrogen, vinyl chloride)
Transport hazard class(es)	2.2 	2.2 	2.2 	2.2 	2.2 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

Section 14. Transport information

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

Additional information

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).

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 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 4(a) final test rules**: 1,2-dichloroethane

TSCA 5(a)2 final significant new use rules: trichloroethylene; hexan-2-one

TSCA 8(a) PAIR: heptane; p-xylene; chlorobenzene; carbon disulphide; bromoform; α-chlorotoluene; 1,4-dichlorobenzene; 1,1-dichloroethane; 1,1-dichloroethylene; 1,2-dichloroethane; 1,2-dichlorobenzene; tetrahydrofuran; 1,2-dichloropropane

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Water Act (CWA) 307: benzene; ethylbenzene; toluene; vinyl chloride; TRANS-D; trans-dichloroethylene; trichloroethylene; tetrachloroethylene; dichloromethane; chloromethane; hexachlorobuta-1,3-diene; Ethyl Chloride; (Z)-1,3-dichloropropene; cis-dichloroethylene; trichloromethane; chlorobenzene; carbon tetrachloride; bromoform; bromodichloromethane; 1,4-dichlorobenzene; 1,3-dichlorbenzene; 1,2, 4-trichlorobenzene; 1,1-dichloroethane; 1,1-dichloroethylene; 1,1,1-trichloroethane; 1,1, 2-trichloroethane; 1,1,2,2-tetrachloroethane; 1,2-dichloroethane; 1,2-dichlorobenzene; 1, 2-dichloropropane; bromomethane; dibromochloromethane

Clean Water Act (CWA) 311: benzene; ethylbenzene; m-xylene; o-xylene; p-xylene; toluene; vinyl acetate; TRANS-D; trichloroethylene; cyclohexane; (Z)-1,3-dichloropropene; trichloromethane; chlorobenzene; carbon tetrachloride; carbon disulphide; α-chlorotoluene; 1,4-dichlorobenzene; 1,3-dichlorbenzene; 1,1-dichloroethylene; 1,2-dibromoethane; 1,2-dichloroethane; 1,2-dichlorobenzene; styrene; 1,2-dichloropropane

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

Section 15. Regulatory information

Name	%	EHS	SARA 302 TPQ (lbs)	SARA 302 TPQ (gallons)	SARA 304 RQ (lbs)	SARA 304 RQ (gallons)
vinyl acetate	0.0000001 - 0.0005	Yes.	1000	129	5000	644.8
Chloroform	0.0000001 - 0.0005	Yes.	10000	803.8	10	0.8
carbon disulphide	0.0000001 - 0.0005	Yes.	10000	947.3	100	9.5
α-chlorotoluene	0.0000001 - 0.0005	Yes.	500	54.4	100	10.9
bromomethane	0.0000001 - 0.0005	Yes.	1000	-	1000	-

SARA 304 RQ : 2000000 lbs / 908000 kg

SARA 311/312

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

State regulations

Massachusetts : The following components are listed: NITROGEN; NITROGEN (LIQUIFIED)

New York : None of the components are listed.

New Jersey : The following components are listed: NITROGEN

Pennsylvania : The following components are listed: NITROGEN

California Prop. 65

⚠ **WARNING**: This product can expose you to chemicals including Benzene, Trichloroethylene, Methyl isobutyl ketone, Chloroform, 1,3-Butadiene, Ethylene dibromide, which are known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to chemicals including Ethylbenzene, Vinyl chloride, Tetrachloroethylene, Dichloromethane, Hexachlorobutadiene, Chloroethane, Carbon tetrachloride, Bromoform, Bromodichloromethane, Benzyl chloride, p-Dichlorobenzene, 1,1-Dichloroethane, Vinyl trichloride, 1,1,2,2-Tetrachloroethane, Ethylene dichloride, 1,4-Dioxane, Styrene, 1,2-Dichloropropane, which are known to the State of California to cause cancer, and Toluene, Methyl chloride, Methyl n-butyl ketone, Carbon disulfide, Methyl bromide, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Benzene	Yes.	Yes.
Ethylbenzene	Yes.	-
Toluene	-	Yes.
Vinyl chloride	Yes.	-
Trichloroethylene	Yes.	-
Tetrachloroethylene	Yes.	-
Dichloromethane	Yes.	-
Methyl isobutyl ketone	-	-
Methyl chloride	-	-
Methyl n-butyl ketone	-	-
Hexachlorobutadiene	-	-
Chloroethane	Yes.	-
Chloroform	Yes.	-
Carbon tetrachloride	Yes.	-
Carbon disulfide	-	-
Bromoform	Yes.	-
Bromodichloromethane	Yes.	-
Benzyl chloride	Yes.	-
p-Dichlorobenzene	Yes.	-
1,3-Butadiene	Yes.	-
1,1-Dichloroethane	Yes.	-
Vinyl trichloride	Yes.	-
1,1,2,2-Tetrachloroethane	Yes.	-

Section 15. Regulatory information

Ethylene dibromide	Yes.	-
Ethylene dichloride	Yes.	-
1,4-Dioxane	Yes.	-
Styrene	Yes.	-
1,2-Dichloropropane	Yes.	-
Methyl bromide	-	Yes.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : Not determined.

Canada : Not determined.

China : Not determined.

Europe : At least one component is not listed in EINECS but all such components are listed in ELINCS.
Please contact your supplier for information on the inventory status of this material.

Japan : **Japan inventory (ENCS)**: Not determined.
Japan inventory (ISHL): Not determined.

Malaysia : Not determined.

New Zealand : Not determined.

Philippines : Not determined.

Republic of Korea : Not determined.

Taiwan : All components are listed or exempted.

Thailand : Not determined.

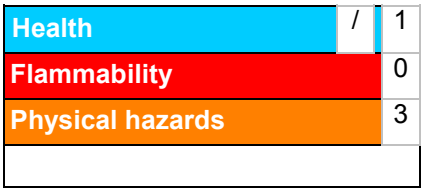
Turkey : Not determined.

United States : Not determined.

Viet Nam : Not determined.

Section 16. Other information

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



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 and the associated label are not required on SDSs or products leaving a facility 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 trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

Section 16. Other information

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

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Procedure used to derive the classification

Classification	Justification
GASES UNDER PRESSURE - Compressed gas	On basis of test data

History

Date of printing : 2/23/2018

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Version : 0.02

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
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Notice to reader

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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.