


SAFETY DATA SHEET

Nonflammable Gas Mixture: 65 Component Certified Hydrocarbon Blend

Section 1. Identification

GHS product identifier	: Nonflammable Gas Mixture: 65 Component Certified Hydrocarbon Blend
Other means of identification	: Not available.
Product use	: Synthetic/Analytical chemistry.
SDS #	: 020006
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 when ambient temperature exceeds 52°C/125°F. 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.
CAS number/other identifiers	
CAS number	: Not applicable.

Section 3. Composition/information on ingredients

Product code : 020006

Ingredient name	%	CAS number
Nitrogen	99	7727-37-9
methyl methacrylate	0.0000001 - 0.0005	80-62-6
Acrolein	0.0000001 - 0.0005	107-02-8
dibromochloromethane	0.0000001 - 0.0005	124-48-1
bromomethane	0.0000001 - 0.0005	74-83-9
1,2-dichloropropane	0.0000001 - 0.0005	78-87-5
styrene	0.0000001 - 0.0005	100-42-5
tetrahydrofuran	0.0000001 - 0.0005	109-99-9
Methane, dichlorodifluoro-	0.0000001 - 0.0005	75-71-8
1,2-dichlorotetrafluoroethane	0.0000001 - 0.0005	76-14-2
1,1,2-Trichlorotrifluoroethane	0.0000001 - 0.0005	76-13-1
acetone	0.0000001 - 0.0005	67-64-1
4-ethyltoluene	0.0000001 - 0.0005	622-96-8
1,4-Dioxane	0.0000001 - 0.0005	123-91-1
1,2-dichlorobenzene	0.0000001 - 0.0005	95-50-1
1,2-dichloroethane	0.0000001 - 0.0005	107-06-2
1,2-dibromoethane	0.0000001 - 0.0005	106-93-4
1,1,2,2-tetrachloroethane	0.0000001 - 0.0005	79-34-5
1,1,2-trichloroethane	0.0000001 - 0.0005	79-00-5
1,1,1-trichloroethane	0.0000001 - 0.0005	71-55-6
1,1-dichloroethylene	0.0000001 - 0.0005	75-35-4
1,1-dichloroethane	0.0000001 - 0.0005	75-34-3
1,2,4-trichlorobenzene	0.0000001 - 0.0005	120-82-1
1,3-butadiene	0.0000001 - 0.0005	106-99-0
1,3-dichlorobenzene	0.0000001 - 0.0005	541-73-1
1,4-dichlorobenzene	0.0000001 - 0.0005	106-46-7
α -chlorotoluene	0.0000001 - 0.0005	100-44-7
bromodichloromethane	0.0000001 - 0.0005	75-27-4
bromoform	0.0000001 - 0.0005	75-25-2
carbon disulphide	0.0000001 - 0.0005	75-15-0
carbon tetrachloride	0.0000001 - 0.0005	56-23-5
chlorobenzene	0.0000001 - 0.0005	108-90-7
trichloromethane	0.0000001 - 0.0005	67-66-3
cis-dichloroethylene	0.0000001 - 0.0005	156-59-2
(Z)-1,3-dichloropropene	0.0000001 - 0.0005	10061-01-5
cyclohexane	0.0000001 - 0.0005	110-82-7
ethanol	0.0000001 - 0.0005	64-17-5
ethyl acetate	0.0000001 - 0.0005	141-78-6
Ethyl chloride	0.0000001 - 0.0005	75-00-3
hexachlorobuta-1,3-diene	0.0000001 - 0.0005	87-68-3
propan-2-ol	0.0000001 - 0.0005	67-63-0
hexan-2-one	0.0000001 - 0.0005	591-78-6
chloromethane	0.0000001 - 0.0005	74-87-3
Methyl Ethyl Ketone	0.0000001 - 0.0005	78-93-3
4-methylpentan-2-one	0.0000001 - 0.0005	108-10-1
tert-butyl methyl ether	0.0000001 - 0.0005	1634-04-4
dichloromethane	0.0000001 - 0.0005	75-09-2
tetrachloroethylene	0.0000001 - 0.0005	127-18-4
propylene	0.0000001 - 0.0005	115-07-1
Methane, trichlorofluoro-	0.0000001 - 0.0005	75-69-4
trichloroethylene	0.0000001 - 0.0005	79-01-6
trans-dichloroethylene	0.0000001 - 0.0005	156-60-5
Trans-1,3-Dichloropropene	0.0000001 - 0.0005	10061-02-6
vinyl acetate	0.0000001 - 0.0005	108-05-4
vinyl chloride	0.0000001 - 0.0005	75-01-4
toluene	0.0000001 - 0.0005	108-88-3
p-xylene	0.0000001 - 0.0005	106-42-3
o-xylene	0.0000001 - 0.0005	95-47-6
heptane	0.0000001 - 0.0005	142-82-5
m-xylene	0.0000001 - 0.0005	108-38-3
n-hexane	0.0000001 - 0.0005	110-54-3

Section 3. Composition/information on ingredients

ethylbenzene	0.0000001 - 0.0005	100-41-4
benzene	0.0000001 - 0.0005	71-43-2
1,3,5-Trimethylbenzene	0.0000001 - 0.0005	108-67-8
1,2,4-trimethylbenzene	0.0000001 - 0.0005	95-63-6

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 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).

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 contact with eyes, skin and clothing. Avoid breathing gas. 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.

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). 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

Ingredient name	Exposure limits
Nitrogen methyl methacrylate	Oxygen Depletion [Asphyxiant] ACGIH TLV (United States, 3/2016). Skin sensitizer. TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes. OSHA PEL 1989 (United States, 3/1989). TWA: 100 ppm 8 hours. TWA: 410 mg/m ³ 8 hours. NIOSH REL (United States, 10/2013). TWA: 100 ppm 10 hours. TWA: 410 mg/m ³ 10 hours. OSHA PEL (United States, 6/2016). TWA: 100 ppm 8 hours. TWA: 410 mg/m ³ 8 hours.
Acrolein	ACGIH TLV (United States, 3/2016). Absorbed through skin. C: 0.1 ppm NIOSH REL (United States, 10/2013). STEL: 0.8 mg/m ³ 15 minutes. STEL: 0.3 ppm 15 minutes. TWA: 0.25 mg/m ³ 10 hours. TWA: 0.1 ppm 10 hours. OSHA PEL (United States, 6/2016). TWA: 0.25 mg/m ³ 8 hours. TWA: 0.1 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). STEL: 0.8 mg/m ³ 15 minutes. STEL: 0.3 ppm 15 minutes. TWA: 0.25 mg/m ³ 8 hours. TWA: 0.1 ppm 8 hours.
dibromochloromethane bromomethane	None. ACGIH TLV (United States, 3/2016). Absorbed through skin. TWA: 3.9 mg/m ³ 8 hours. TWA: 1 ppm 8 hours. OSHA PEL (United States, 6/2016). Absorbed through skin. CEIL: 80 mg/m ³ CEIL: 20 ppm OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. TWA: 20 mg/m ³ 8 hours. TWA: 5 ppm 8 hours.
1,2-dichloropropane	ACGIH TLV (United States, 3/2016). Skin sensitizer. TWA: 10 ppm 8 hours. OSHA PEL (United States, 6/2016). TWA: 350 mg/m ³ 8 hours. TWA: 75 ppm 8 hours.

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styrene

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.

ACGIH TLV (United States, 3/2016).

Absorbed through skin.

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, 10/2013).

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.

ACGIH TLV (United States, 3/2016).

Absorbed through skin.

STEL: 100 ppm 15 minutes.

TWA: 50 ppm 8 hours.

NIOSH REL (United States, 10/2013).

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.

ACGIH TLV (United States, 3/2016).

TWA: 4950 mg/m³ 8 hours.

TWA: 1000 ppm 8 hours.

NIOSH REL (United States, 10/2013).

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).

TWA: 4950 mg/m³ 8 hours.

TWA: 1000 ppm 8 hours.

ACGIH TLV (United States, 3/2016).

TWA: 6990 mg/m³ 8 hours.

TWA: 1000 ppm 8 hours.

NIOSH REL (United States, 10/2013).

TWA: 7000 mg/m³ 10 hours.

TWA: 1000 ppm 10 hours.

OSHA PEL (United States, 6/2016).

TWA: 7000 mg/m³ 8 hours.

tetrahydrofuran

Methane, dichlorodifluoro-

1,2-dichlorotetrafluoroethane

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1,1,2-Trichlorotrifluoroethane

TWA: 1000 ppm 8 hours.
OSHA PEL 1989 (United States, 3/1989).
 TWA: 7000 mg/m³ 8 hours.
 TWA: 1000 ppm 8 hours.
ACGIH TLV (United States, 3/2016).
 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.

acetone

NIOSH REL (United States, 10/2013).
 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.
ACGIH TLV (United States, 3/2016).
 STEL: 500 ppm 15 minutes.
 TWA: 250 ppm 8 hours.
NIOSH REL (United States, 10/2013).
 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.

4-ethyltoluene
 1,4-Dioxane

None.
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, 10/2013).
 CEIL: 1 ppm 30 minutes.
 CEIL: 3.6 mg/m³ 30 minutes.
ACGIH TLV (United States, 3/2016).
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.

1,2-dichlorobenzene

ACGIH TLV (United States, 3/2016).
 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, 10/2013).
 CEIL: 50 ppm
 CEIL: 300 mg/m³

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1,2-dichloroethane

OSHA PEL (United States, 6/2016).
 CEIL: 50 ppm
 CEIL: 300 mg/m³
ACGIH TLV (United States, 3/2016).
 TWA: 40 mg/m³ 8 hours.
 TWA: 10 ppm 8 hours.
NIOSH REL (United States, 10/2013).
 STEL: 8 mg/m³ 15 minutes.
 STEL: 2 ppm 15 minutes.
 TWA: 4 mg/m³ 10 hours.
 TWA: 1 ppm 10 hours.

1,2-dibromoethane

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.
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.

1,1,1,2-tetrachloroethane

NIOSH REL (United States, 10/2013).
 TWA: 0.045 ppm 10 hours.
 CEIL: 0.13 ppm 15 minutes.
ACGIH TLV (United States, 3/2016).
Absorbed through skin.
 TWA: 1 ppm 8 hours.
NIOSH REL (United States, 10/2013).
Absorbed through skin.
 TWA: 7 mg/m³ 10 hours.
 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.

1,1,2-trichloroethane

ACGIH TLV (United States, 3/2016).
Absorbed through skin.
 TWA: 55 mg/m³ 8 hours.
 TWA: 10 ppm 8 hours.
NIOSH REL (United States, 10/2013).
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.

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<p>1,1,1-trichloroethane</p>	<p>ACGIH TLV (United States, 3/2016). 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, 10/2013). 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.</p>
<p>1,1-dichloroethylene</p>	<p>ACGIH TLV (United States, 3/2016). TWA: 5 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 4 mg/m³ 8 hours. TWA: 1 ppm 8 hours.</p>
<p>1,1-dichloroethane</p>	<p>ACGIH TLV (United States, 3/2016). TWA: 405 mg/m³ 8 hours. TWA: 100 ppm 8 hours. NIOSH REL (United States, 10/2013). 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.</p>
<p>1,2,4-trichlorobenzene</p>	<p>ACGIH TLV (United States, 3/2016). C: 5 ppm C: 37 mg/m³ OSHA PEL 1989 (United States, 3/1989). CEIL: 5 ppm CEIL: 40 mg/m³ NIOSH REL (United States, 10/2013). CEIL: 5 ppm CEIL: 40 mg/m³</p>
<p>1,3-butadiene</p>	<p>ACGIH TLV (United States, 3/2016). 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.</p>
<p>1,3-dichlorbenzene 1,4-dichlorobenzene</p>	<p>None. ACGIH TLV (United States, 3/2016). 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.</p>

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α -chlorotoluene

TWA: 75 ppm 8 hours.
ACGIH TLV (United States, 3/2016).
 TWA: 5.2 mg/m³ 8 hours.
 TWA: 1 ppm 8 hours.
NIOSH REL (United States, 10/2013).
 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.

bromodichloromethane
 bromoform

None.
ACGIH TLV (United States, 3/2016).
Absorbed through skin.
 TWA: 0.5 ppm 8 hours.
NIOSH REL (United States, 10/2013).
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.

carbon disulphide

ACGIH TLV (United States, 3/2016).
Absorbed through skin.
 TWA: 1 ppm 8 hours.
NIOSH REL (United States, 10/2013).
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.
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.

carbon tetrachloride

ACGIH TLV (United States, 3/2016).
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, 10/2013).

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<p>chlorobenzene</p>	<p>STEL: 2 ppm 60 minutes. STEL: 12.6 mg/m³ 60 minutes. ACGIH TLV (United States, 3/2016). 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.</p>
<p>trichloromethane</p>	<p>ACGIH TLV (United States, 3/2016). TWA: 49 mg/m³ 8 hours. TWA: 10 ppm 8 hours. NIOSH REL (United States, 10/2013). 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.</p>
<p>cis-dichloroethylene</p>	<p>ACGIH TLV (United States, 3/2016). TWA: 200 ppm 8 hours. TWA: 793 mg/m³ 8 hours.</p>
<p>(Z)-1,3-dichloropropene cyclohexane</p>	<p>None. ACGIH TLV (United States, 3/2016). TWA: 100 ppm 8 hours. NIOSH REL (United States, 10/2013). 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.</p>
<p>ethanol</p>	<p>ACGIH TLV (United States, 3/2016). 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, 10/2013). 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.</p>
<p>ethyl acetate</p>	<p>ACGIH TLV (United States, 3/2016). 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, 10/2013). 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.</p>
<p>Ethyl chloride</p>	<p>ACGIH TLV (United States, 3/2016).</p>

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hexachlorobuta-1,3-diene

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.

propan-2-ol

ACGIH TLV (United States, 3/2016).
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, 10/2013).
Absorbed through skin.
 TWA: 0.02 ppm 10 hours.
 TWA: 0.24 mg/m³ 10 hours.

hexan-2-one

ACGIH TLV (United States, 3/2015).
 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, 10/2013).
 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, 2/2013).
 TWA: 400 ppm 8 hours.
 TWA: 980 mg/m³ 8 hours.

chloromethane

OSHA PEL 1989 (United States, 3/1989).
 TWA: 5 ppm 8 hours.
 TWA: 20 mg/m³ 8 hours.
NIOSH REL (United States, 10/2013).
 TWA: 1 ppm 10 hours.
 TWA: 4 mg/m³ 10 hours.
ACGIH TLV (United States, 3/2016).
Absorbed through skin.
 TWA: 5 ppm 8 hours.
 STEL: 10 ppm 15 minutes.

OSHA PEL (United States, 6/2016).
 TWA: 100 ppm 8 hours.
 TWA: 410 mg/m³ 8 hours.
ACGIH TLV (United States, 3/2016).
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.

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Methyl Ethyl Ketone

CEIL: 200 ppm
 AMP: 300 ppm 5 minutes.
ACGIH TLV (United States, 3/2016).
 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, 10/2013).
 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.

4-methylpentan-2-one

ACGIH TLV (United States, 3/2016).
 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, 10/2013).
 TWA: 50 ppm 10 hours.
 TWA: 205 mg/m³ 10 hours.
 STEL: 75 ppm 15 minutes.
 STEL: 300 mg/m³ 15 minutes.

tert-butyl methyl ether

OSHA PEL (United States, 6/2016).
 TWA: 100 ppm 8 hours.
 TWA: 410 mg/m³ 8 hours.
ACGIH TLV (United States, 3/2016).
 TWA: 50 ppm 8 hours.
ACGIH TLV (United States, 3/2016).
 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.

dichloromethane

OSHA PEL Z2 (United States, 2/2013).
 STEL: 125 ppm 15 minutes.
 TWA: 25 ppm 8 hours.

tetrachloroethylene

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

propylene

OSHA PEL Z2 (United States, 2/2013).
 AMP: 300 ppm 5 minutes.
 CEIL: 200 ppm
 TWA: 100 ppm 8 hours.
ACGIH TLV (United States, 1/2005).
 TWA: 500 ppm 8 hours. Form: All forms
ACGIH TLV (United States, 3/2016).

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Methane, trichlorofluoro-

trichloroethylene

trans-dichloroethylene

Trans-1,3-Dichloropropene
vinyl acetate

vinyl chloride

toluene

TWA: 500 ppm 8 hours.
ACGIH TLV (United States, 3/2016).
 C: 5620 mg/m³
 C: 1000 ppm
NIOSH REL (United States, 10/2013).
 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
ACGIH TLV (United States, 3/2016).
 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.
ACGIH TLV (United States, 3/2016).
 TWA: 200 ppm 8 hours.
 TWA: 793 mg/m³ 8 hours.
 None.
ACGIH TLV (United States, 3/2016).
 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, 10/2013).
 CEIL: 15 mg/m³ 15 minutes.
 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.
ACGIH TLV (United States, 3/2016).
 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.
ACGIH TLV (United States, 3/2016).
 TWA: 20 ppm 8 hours.
NIOSH REL (United States, 10/2013).
 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.

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p-xylene

OSHA PEL Z2 (United States, 2/2013).

AMP: 500 ppm 10 minutes.

CEIL: 300 ppm

TWA: 200 ppm 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.

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, 3/2016).

TWA: 100 ppm 8 hours.

TWA: 434 mg/m³ 8 hours.

STEL: 150 ppm 15 minutes.

STEL: 651 mg/m³ 15 minutes.

o-xylene

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.

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, 3/2016).

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, 3/2016).

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.

m-xylene

NIOSH REL (United States, 10/2013).

STEL: 655 mg/m³ 15 minutes.

STEL: 150 ppm 15 minutes.

TWA: 435 mg/m³ 10 hours.

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n-hexane

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

ethylbenzene

TWA: 50 ppm 8 hours.
NIOSH REL (United States, 10/2013).
 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.
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.

benzene

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

1,3,5-Trimethylbenzene

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: 25 ppm 8 hours.

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1,2,4-trimethylbenzene

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, 10/2013).
 TWA: 25 ppm 10 hours.
 TWA: 125 mg/m³ 10 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

: 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

: 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	: -210.01°C (-346°F) This is based on data for the following ingredient: nitrogen.
Critical temperature	: Lowest known value: -146.95°C (-232.5°F) (nitrogen).
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: 0.97 (Air = 1) (nitrogen).
Gas Density (lb/ft³)	: 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.
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	: 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
methyl methacrylate	LC50 Inhalation Vapor	Rat	78000 mg/m ³	4 hours
	LC50 Inhalation Vapor	Rat	5303.3 ppm	4 hours
	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	7872 mg/kg	-
Acrolein	LC50 Inhalation Gas.	Rat	8 ppm	4 hours
	LC50 Inhalation Vapor	Rat	18 mg/m ³	4 hours
	LD50 Dermal	Rabbit	160 mg/kg	-
dibromochloromethane	LD50 Oral	Rat	370 mg/kg	-
	LC50 Inhalation Gas.	Rat	850 ppm	1 hours
bromomethane	LC50 Inhalation Gas.	Rat	8558 ppm	1 hours
	LC50 Inhalation Gas.	Rat	2000 ppm	4 hours
1,2-dichloropropane	LD50 Dermal	Rabbit	8750 mg/kg	-
	LD50 Oral	Rat	1900 mg/kg	-
	LC50 Inhalation Gas.	Rat	5634 ppm	1 hours
styrene	LC50 Inhalation Gas.	Rat	2770 ppm	4 hours
	LC50 Inhalation Vapor	Rat	11800 mg/m ³	4 hours
	LD50 Oral	Rat	2650 mg/kg	-
tetrahydrofuran	LD50 Oral	Rat	1650 mg/kg	-
	LC50 Inhalation Gas.	Rat	155540 ppm	1 hours
1,1,2-Trichlorotrifluoroethane	LC50 Inhalation Gas.	Rat	38000 ppm	4 hours
	LD50 Oral	Rat	43 g/kg	-
	LC50 Inhalation Vapor	Rat	59528 ppm	1 hours
acetone	LD50 Oral	Rat	5800 mg/kg	-
	LD50 Oral	Rat	4850 mg/kg	-
4-ethyltoluene	LD50 Oral	Rat	4200 mg/kg	-
	LD50 Oral	Rat	4200 mg/kg	-
1,2-dichlorobenzene	LC50 Inhalation Vapor	Rat	8150 mg/m ³	4 hours
	LD50 Dermal	Rabbit	>10 g/kg	-
	LD50 Oral	Rat	500 mg/kg	-
1,2-dichloroethane	LC50 Inhalation Gas.	Rat	2646 ppm	1 hours
	LC50 Inhalation Gas.	Rat	700 ppm	1 hours
1,2-dibromoethane	LC50 Inhalation Vapor	Rat	14300 ppm	1 hours
	LD50 Dermal	Rabbit	300 mg/kg	-
	LD50 Dermal	Rat	300 mg/kg	-
1,1,2,2-tetrachloroethane	LD50 Oral	Rat	108 mg/kg	-
	LC50 Inhalation Vapor	Rat	8600 mg/m ³	4 hours
	LD50 Dermal	Rabbit	3990 mg/kg	-
1,1,2-trichloroethane	LD50 Oral	Rat	200 mg/kg	-
	LD50 Oral	Rat	580 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-dichloroethylene	LC50 Inhalation Gas.	Rat	12700 ppm	1 hours
	LC50 Inhalation Gas.	Rat	6350 ppm	4 hours
1,1-dichloroethane	LD50 Oral	Rat	200 mg/kg	-
	LC50 Inhalation Gas.	Rat	13000 ppm	4 hours
	LD50 Oral	Rat	725 mg/kg	-
1,2,4-trichlorobenzene	LD50 Dermal	Rat	6139 mg/kg	-
	LD50 Oral	Rat	756 mg/kg	-
	LD50 Oral	Rat	756 mg/kg	-
1,3-butadiene	LC50 Inhalation Gas.	Rat	128000 ppm	4 hours
	LD50 Oral	Rat	1100 mg/kg	-
1,3-dichlorobenzene	LD50 Oral	Rat	1100 mg/kg	-
	LD50 Oral	Rat	1100 mg/kg	-
1,4-dichlorobenzene	LC50 Inhalation Vapor	Rat	5000 mg/m ³	4 hours
	LD50 Dermal	Rat	2000 mg/kg	-
	LD50 Oral	Rat	500 mg/kg	-
α-chlorotoluene	LC50 Inhalation Vapor	Rat	212.1 ppm	1 hours
	LD50 Oral	Rat	1231 mg/kg	-
bromodichloromethane	LD50 Oral	Rat	430 mg/kg	-
	LD50 Oral	Rat	430 mg/kg	-
bromoform	LD50 Oral	Rat	933 mg/kg	-
	LD50 Oral	Rat	933 mg/kg	-
carbon tetrachloride	LD50 Oral	Rat	8000 ppm	4 hours
	LC50 Inhalation Gas.	Rat	8000 ppm	4 hours

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	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Dermal	Rat	5070 mg/kg	-
chlorobenzene	LD50 Oral	Rat	2350 mg/kg	-
	LD50 Dermal	Rabbit	>7940 mg/kg	-
	LD50 Oral	Rat	500 mg/kg	-
trichloromethane	LC50 Inhalation Gas.	Rat	19470 ppm	1 hours
	LC50 Inhalation Vapor	Rat	47702 mg/m ³	4 hours
	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Oral	Rat	300 mg/kg	-
cyclohexane	LD50 Oral	Rat	6240 mg/kg	-
ethyl acetate	LD50 Oral	Rat	5620 mg/kg	-
hexachlorobuta-1,3-diene	LC50 Inhalation Vapor	Rat	630 mg/m ³	4 hours
	LD50 Dermal	Rabbit	100 mg/kg	-
	LD50 Dermal	Rat	4500 mg/kg	-
	LD50 Oral	Rat	82 mg/kg	-
propan-2-ol	LC50 Inhalation Gas.	Rat	45248 ppm	1 hours
	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
hexan-2-one	LC50 Inhalation Gas.	Rat	8000 ppm	4 hours
	LD50 Dermal	Rabbit	4800 mg/kg	-
	LD50 Oral	Rat	2590 mg/kg	-
chloromethane	LC50 Inhalation Gas.	Rat	8300 ppm	4 hours
Methyl Ethyl Ketone	LC50 Inhalation Gas.	Rat	22527 ppm	1 hours
	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
4-methylpentan-2-one	LD50 Oral	Rat	2080 mg/kg	-
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/m ³	4 hours
	LD50 Oral	Rat	4 g/kg	-
dichloromethane	LC50 Inhalation Vapor	Rat	76000 mg/m ³	4 hours
tetrachloroethylene	LC50 Inhalation Vapor	Rat	14255 ppm	1 hours
	LD50 Oral	Rat	2629 mg/kg	-
Methane, trichlorofluoro-trichloroethylene	LC50 Inhalation Gas.	Rat	104800 ppm	1 hours
	LC50 Inhalation Vapor	Rat	140700 mg/m ³	1 hours
	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Oral	Rat	4920 mg/kg	-
trans-dichloroethylene	LC50 Inhalation Gas.	Rat	24100 ppm	4 hours
	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	1235 mg/kg	-
vinyl acetate	LC50 Inhalation Gas.	Rat	22800 mg/m ³	1 hours
	LC50 Inhalation Vapor	Rat	11400 mg/m ³	4 hours
	LD50 Dermal	Rabbit	2335 mg/kg	-
	LD50 Oral	Rat	2900 mg/kg	-
toluene	LC50 Inhalation Vapor	Rat	28830 ppm	1 hours
	LC50 Inhalation Vapor	Rat	49 g/m ³	4 hours
p-xylene	LC50 Inhalation Gas.	Rat	9100 ppm	1 hours
	LC50 Inhalation Gas.	Rat	4550 ppm	4 hours
	LD50 Oral	Rat	3910 mg/kg	-
o-xylene	LC50 Inhalation Gas.	Mouse	8736 ppm	1 hours
	LC50 Inhalation Gas.	Rat	13400 ppm	1 hours
	LD50 Oral	Rat	3567 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/m ³	4 hours
m-xylene	LD50 Oral	Rat	4988 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	-
ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
benzene	LC50 Inhalation Gas.	Rat	10000 ppm	7 hours
	LD50 Oral	Rat	930 mg/kg	-

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1,3,5-Trimethylbenzene	LC50 Inhalation Vapor LD50 Oral	Rat Rat	24000 mg/m ³ 5000 mg/kg	4 hours -
1,2,4-trimethylbenzene	LC50 Inhalation Vapor LD50 Oral	Rat Rat	18000 mg/m ³ 5 g/kg	4 hours -

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acrolein	Eyes - Severe irritant	Rabbit	-	24 hours 50 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	1 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
1,2-dichloropropane	Skin - Severe irritant	Rabbit	-	5 milligrams	-
	Eyes - Mild irritant	Rabbit	-	500 milligrams	-
styrene	Skin - Mild irritant	Rabbit	-	0.5 Milliliters	-
	Eyes - Mild irritant	Human	-	50 parts per million	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
1,1,2-Trichlorotrifluoroethane	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
acetone	Skin - Mild irritant	Rabbit	-	500 milligrams	-
	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant Eyes - Moderate irritant	Rabbit Rabbit	- -	10 microliters 24 hours 20 milligrams	- -
1,4-dioxane	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
	Eyes - Moderate irritant	Guinea pig	-	10 Micrograms	-
1,2-dichlorobenzene	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	515 milligrams	-
	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
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	-
1,2-dibromoethane	Skin - Mild irritant	Rabbit	-	625 milligrams	-
	Skin - Severe irritant	Human	-	2 hours 1538 milligrams	-
1,1,2,2-tetrachloroethane	Skin - Severe irritant	Rabbit	-	336 hours 1 Percent	-
	1,1,2-trichloroethane	Rabbit	-	0.01 Milliliters 24 hours 500	-

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1,1,1-trichloroethane	Eyes - Mild irritant	Rabbit	-	milligrams 162	-
	Skin - Mild irritant	Rabbit	-	milligrams 24 hours 500	-
	Skin - Mild irritant	Rabbit	-	milligrams 500	-
	Skin - Severe irritant	Rabbit	-	milligrams 24 hours 810	-
	Eyes - Mild irritant	Rabbit	-	milligrams 100	-
	Eyes - Severe irritant	Rabbit	-	milligrams 24 hours 2	-
	Skin - Mild irritant	Rabbit	-	milligrams 288 hours 5	-
1,2,4-trichlorobenzene	Skin - Moderate irritant	Rabbit	-	Grams Intermittent 24 hours 20	-
	Skin - Moderate irritant	Rabbit	-	milligrams 2184 hours 1950	-
carbon tetrachloride	Eyes - Mild irritant	Rabbit	-	milligrams Intermittent 24 hours 500	-
	Eyes - Mild irritant	Rabbit	-	milligrams 0.5 minutes 2200	-
	Skin - Mild irritant	Rabbit	-	Micrograms 24 hours 500	-
trichloromethane	Skin - Mild irritant	Rabbit	-	milligrams 4 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20	-
ethanol	Skin - Mild irritant	Rabbit	-	milligrams 24 hours 500	-
	Eyes - Mild irritant	Rabbit	-	milligrams 24 hours 500	-
	Eyes - Moderate irritant	Rabbit	-	milligrams 0.066666667	-
hexachlorobuta-1,3-diene	Eyes - Moderate irritant	Rabbit	-	minutes 100	-
	Eyes - Moderate irritant	Rabbit	-	milligrams 100	-
	Eyes - Severe irritant	Rabbit	-	microliters 500	-
	Skin - Mild irritant	Rabbit	-	milligrams 400	-
	Skin - Moderate irritant	Rabbit	-	milligrams 24 hours 20	-
	Eyes - Mild irritant	Rabbit	-	milligrams 24 hours 500	-
	Eyes - Mild irritant	Rabbit	-	milligrams 162	-
propan-2-ol	Skin - Mild irritant	Rabbit	-	milligrams 24 hours 500	-
	Skin - Moderate irritant	Rabbit	-	milligrams 24 hours 810	-
	Eyes - Moderate irritant	Rabbit	-	milligrams 24 hours 100	-
	Eyes - Moderate irritant	Rabbit	-	milligrams 10 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100	-
hexan-2-one	Skin - Mild irritant	Rabbit	-	milligrams 500	-
	Eyes - Mild irritant	Rabbit	-	milligrams 24 hours 500	-

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Methyl Ethyl Ketone	Skin - Mild irritant	Rabbit	-	milligrams 24 hours 500	-
	Skin - Mild irritant	Rabbit	-	milligrams 24 hours 14	-
	Skin - Moderate irritant	Rabbit	-	milligrams 24 hours 500	-
4-methylpentan-2-one	Eyes - Moderate irritant	Rabbit	-	milligrams 24 hours 100	-
	Eyes - Severe irritant Skin - Mild irritant	Rabbit Rabbit	- -	microliters 40 milligrams 24 hours 500	- -
dichloromethane	Eyes - Mild irritant	Rabbit	-	milligrams 24 hours 500	-
	Eyes - Mild irritant Eyes - Moderate irritant	Rabbit Rabbit	- -	milligrams 10 milligrams 162	- -
	Skin - Moderate irritant	Rabbit	-	milligrams 24 hours 100	-
tetrachloroethylene	Skin - Severe irritant	Rabbit	-	milligrams 24 hours 810	-
	Eyes - Mild irritant	Rabbit	-	milligrams 24 hours 500	-
	Eyes - Mild irritant	Rabbit	-	162 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500	-
trichloroethylene	Skin - Severe irritant	Rabbit	-	milligrams 24 hours 810	-
	Eyes - Moderate irritant	Rabbit	-	milligrams 24 hours 20	-
	Skin - Severe irritant	Rabbit	-	milligrams 24 hours 2	-
trans-dichloroethylene	Eyes - Moderate irritant Skin - Moderate irritant	Rabbit Rabbit	- -	10 milligrams 24 hours 500	- -
	toluene	Eyes - Mild irritant	Rabbit	milligrams 0.5 minutes 100	-
m-xylene	Eyes - Mild irritant	Rabbit	-	milligrams 870	-
	Eyes - Severe irritant	Rabbit	-	Micrograms 24 hours 2	-
	Skin - Mild irritant	Pig	-	milligrams 24 hours 250	-
	Skin - Mild irritant	Rabbit	-	microliters 435	-
	Skin - Moderate irritant	Rabbit	-	milligrams 24 hours 20	-
	Skin - Moderate irritant	Rabbit	-	milligrams 500	-
	Eyes - Severe irritant	Rabbit	-	milligrams 24 hours 5	-
n-hexane ethylbenzene	Skin - Moderate irritant	Rabbit	-	milligrams 24 hours 20	-
	Skin - Severe irritant	Rabbit	-	milligrams 24 hours 10	-
	Eyes - Mild irritant Eyes - Severe irritant	Rabbit Rabbit	- -	Micrograms 10 milligrams 500	- -
benzene	Skin - Mild irritant	Rabbit	-	milligrams 24 hours 15	-
	Eyes - Moderate irritant	Rabbit	-	milligrams 88 milligrams	-

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1,3,5-Trimethylbenzene	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	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

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	Reasonably anticipated 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	-
chloromethane	-	3	-
propan-2-ol	-	3	-
hexachlorobuta-1,3-diene	-	3	-
Ethyl chloride	-	3	-
ethanol	-	1	-
trichloromethane	-	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-dichlorobenzene	-	3	-
1,3-butadiene	-	1	Known to be a human carcinogen.
1,1-dichloroethylene	-	3	-
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.
styrene	-	2B	Reasonably anticipated to be a human carcinogen.
1,2-dichloropropane	-	3	-
bromomethane	-	3	-

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dibromochloromethane	-	3	-
Acrolein	-	3	-
methyl methacrylate	-	3	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
methyl methacrylate	Category 3	Not applicable.	Respiratory tract irritation
bromomethane	Category 3	Not applicable.	Respiratory tract irritation
tetrahydrofuran	Category 3	Not applicable.	Respiratory tract irritation
acetone	Category 3	Not applicable.	Narcotic effects
1,4-dioxane	Category 3	Not applicable.	Respiratory tract irritation
1,2-dichlorobenzene	Category 3	Not applicable.	Respiratory tract irritation
1,2-dichloroethane	Category 3	Not applicable.	Respiratory tract irritation
1,2-dibromoethane	Category 3	Not applicable.	Respiratory tract irritation
1,1-dichloroethane	Category 3	Not applicable.	Respiratory tract irritation
α -chlorotoluene	Category 3	Not applicable.	Respiratory tract irritation
(Z)-1,3-dichloropropene	Category 3	Not applicable.	Respiratory tract irritation
cyclohexane	Category 3	Not applicable.	Narcotic effects
ethyl acetate	Category 3	Not applicable.	Narcotic effects
propan-2-ol	Category 3	Not applicable.	Narcotic effects
hexan-2-one	Category 3	Not applicable.	Narcotic effects
Methyl Ethyl Ketone	Category 3	Not applicable.	Narcotic effects
4-methylpentan-2-one	Category 3	Not applicable.	Respiratory tract irritation
toluene	Category 3	Not applicable.	Narcotic effects
heptane	Category 3	Not applicable.	Narcotic effects
n-hexane	Category 3	Not applicable.	Narcotic effects
1,3,5-Trimethylbenzene	Category 3	Not applicable.	Respiratory tract irritation
1,2,4-trimethylbenzene	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
bromomethane	Category 2	Not determined	central nervous system (CNS) and kidneys
α -chlorotoluene	Category 2	Not determined	Not determined
carbon disulphide	Category 1	Not determined	Not determined
carbon tetrachloride	Category 1	Not determined	Not determined
trichloromethane	Category 2	Not determined	Not determined
hexan-2-one	Category 1	Not determined	Not determined
chloromethane	Category 2	Not determined	central nervous system (CNS)
vinyl chloride	Category 2	Not determined	liver

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toluene	Category 2	Not determined	Not determined
n-hexane	Category 2	Not determined	Not determined
benzene	Category 1	Not determined	bone marrow

Aspiration hazard

Name	Result
(Z)-1,3-dichloropropene	ASPIRATION HAZARD - Category 1
cyclohexane	ASPIRATION HAZARD - Category 1
ethylbenzene	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.
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
methyl methacrylate	Acute LC50 130000 µg/l Fresh water	Fish - Pimephales promelas - Adult	96 hours
Acrolein	Acute EC50 30 µg/l Fresh water Acute LC50 0.018 mg/l Marine water	Daphnia - Daphnia magna Crustaceans - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling)	48 hours 48 hours
bromomethane	Acute LC50 14 µg/l Fresh water Chronic NOEC 9.1 µg/l Fresh water Acute EC50 1700 µg/l Fresh water	Fish - Pimephales promelas Fish - Pimephales promelas Daphnia - Daphnia magna	96 hours 32 days 48 hours
1,2-dichloropropane	Acute EC50 0.6 µg/l Fresh water Acute EC50 83000 µg/l Fresh water	Fish - Poecilia reticulata Algae - Chlamydomonas reinhardtii	96 hours 4 days
	Acute LC50 53 mg/l Marine water Acute LC50 55.9 mg/l Fresh water	Crustaceans - Elminius modestus Daphnia - Daphnia magna - Neonate	48 hours 48 hours
	Acute LC50 61 mg/l Marine water Chronic NOEC 38000 µg/l Fresh water	Fish - Pleuronectiformes Algae - Chlamydomonas reinhardtii	96 hours 4 days
styrene	Acute EC50 1400 µg/l Fresh water Acute EC50 720 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata Algae - Pseudokirchneriella subcapitata	72 hours 96 hours
	Acute EC50 4700 to 7400 µg/l Fresh water Acute LC50 52 mg/l Marine water Acute LC50 4.7 mg/l Fresh water Chronic NOEC 63 µg/l Fresh water	Daphnia - Daphnia magna Crustaceans - Artemia salina Fish - Lepomis macrochirus Algae - Pseudokirchneriella subcapitata	48 hours 96 hours 96 hours
tetrahydrofuran	Acute LC50 2160000 to 2360000 µg/l Fresh water Chronic NOEC 367 mg/l Fresh water	Fish - Pimephales promelas Fish - Pimephales promelas - Embryo	96 hours 33 days
acetone	Acute EC50 20.565 mg/l Marine water Acute LC50 6000000 µg/l Fresh water Acute LC50 10000 µg/l Fresh water Acute LC50 5600 ppm Fresh water Chronic NOEC 4.95 mg/l Marine water Chronic NOEC 0.016 ml/L Fresh water Chronic NOEC 0.1 ml/L Fresh water	Algae - Ulva pertusa Crustaceans - Gammarus pulex Daphnia - Daphnia magna Fish - Poecilia reticulata Algae - Ulva pertusa Crustaceans - Daphniidae Daphnia - Daphnia magna - Neonate	96 hours 48 hours 48 hours 96 hours 96 hours 21 days 21 days
	Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days
1,4-dioxane	Acute LC50 6700000 µg/l Marine water	Fish - Menidia beryllina	96 hours
1,2-dichlorobenzene	Acute EC50 12.8 mg/l Fresh water Acute EC50 2200 µg/l	Algae - Phaeodactylum tricorutum Algae - Pseudokirchneriella subcapitata	72 hours 96 hours
	Acute EC50 740 µg/l Fresh water Acute EC50 1.55 mg/l Fresh water Acute LC50 4.52 ppm Marine water	Daphnia - Daphnia magna Fish - Oncorhynchus mykiss Crustaceans - Americamysis bahia	48 hours 96 hours 48 hours
1,2-dichloroethane	Chronic NOEC 630 µg/l Fresh water Acute EC50 >443 ppm Marine water Acute EC50 >433 mg/l Fresh water	Daphnia - Daphnia magna Algae - Skeletonema costatum Algae - Pseudokirchneriella subcapitata	21 days 72 hours 96 hours
	Acute EC50 160000 to 190000 µg/l Fresh water Acute LC50 110 ppm Marine water Acute LC50 115 mg/l Marine water	Daphnia - Daphnia magna - Instar Crustaceans - Americamysis bahia Fish - Pleuronectiformes	48 hours 48 hours 96 hours

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	Chronic NOEC 29000 µg/l Fresh water	Fish - Pimephales promelas - Larvae	32 days
1,2-dibromoethane	Acute LC50 32100 to 37400 µg/l Fresh water	Fish - Oryzias latipes - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 5810 µg/l Fresh water	Fish - Oryzias latipes - Juvenile (Fledgling, Hatchling, Weanling)	28 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 to 13000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 20300 to 20700 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 1400 µg/l Fresh water	Fish - Pimephales promelas - Larvae	32 days
1,1,2-trichloroethane	Acute EC50 60000 µg/l Marine water	Algae - Phaeodactylum tricorutum	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
	Acute LC50 43 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 55000 µg/l Marine water	Fish - Pleuronectes platessa - Yolk-sac larvae	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
1,1,1-trichloroethane	Acute EC50 0.536 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 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
	Acute LC50 52900 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic EC10 0.213 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
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 to 14000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 220000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Chronic EC10 3.94 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
1,2,4-trichlorobenzene	Acute EC50 21700 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 1400 µg/l	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute LC50 1700 µg/l Fresh water	Daphnia - Daphnia magna - Instar	48 hours
	Acute LC50 1217 µg/l Fresh water	Fish - Jordanella floridae - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic EC10 11 mg/l Fresh water	Algae - Scenedesmus subspicatus	72 hours

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1,3-dichlorbenzene	Chronic NOEC 0.2 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 499 µg/l Fresh water	Fish - Pimephales promelas - Larvae	32 days
1,4-dichlorobenzene	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
α-chlorotoluene	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
bromoform	Acute EC50 50.6 ppm Marine water	Algae - Skeletonema costatum	72 hours
	Acute EC50 1600 µg/l	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
carbon disulphide	Acute LC50 5.35 ppm Marine water	Crustaceans - Americamysis bahia	48 hours
	Chronic NOEC 5600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	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
carbon tetrachloride	Acute LC50 4400 to 5800 µg/l Marine water	Crustaceans - Penaeus setiferus	48 hours
	Acute LC50 4000 µg/l	Fish - Danio rerio	96 hours
	Acute EC50 13.5 ppm Marine water	Algae - Skeletonema costatum	72 hours
	Acute EC50 11.5 ppm Marine water	Algae - Skeletonema costatum	96 hours
chlorobenzene	Acute LC50 60.1 ppm Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 46000 to 51000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 7.1 mg/l Marine water	Fish - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 10000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
chlorobenzene	Acute EC50 21000 µg/l Fresh water	Algae - Chlorella pyrenoidosa	96 hours
	Acute LC50 2100 to 2200 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 2.99 mg/l Fresh water	Fish - Poecilia reticulata - Young	96 hours
	Acute EC50 0.246 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
chlorobenzene	Acute EC50 180.54 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute LC50 35000 to 47000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 10400 to 11300 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
chlorobenzene	Acute EC50 19.6 mg/l Fresh water	Algae - Phaeodactylum tricornutum	72 hours
	Acute EC50 12500 µg/l	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute LC50 11100 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 11500 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 2370 to 2860 µg/l Fresh	Fish - Carassius auratus - Egg	96 hours

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trichloromethane	water Chronic NOEC 2 mg/kg Fresh water Acute EC50 13.3 mg/l Fresh water	Fish - <i>Carassius auratus</i> Algae - <i>Chlamydomonas reinhardtii</i> - Exponential growth phase	30 days 72 hours
	Acute EC50 2.803 mg/l Fresh water Acute LC50 29 mg/l Fresh water Acute LC50 13.3 ppm Fresh water Chronic EC10 3.61 mg/l Fresh water	Crustaceans - <i>Cypris subglobosa</i> Daphnia - <i>Daphnia magna</i> Fish - <i>Lepomis macrochirus</i> Algae - <i>Chlamydomonas reinhardtii</i> - Exponential growth phase	48 hours 48 hours 96 hours 72 hours
cyclohexane	Chronic NOEC 1.8 mg/l Fresh water Acute LC50 8300 µg/l Marine water	Daphnia - <i>Daphnia magna</i> Fish - <i>Morone saxatilis</i> - Juvenile (Fledgling, Hatchling, Weanling)	21 days 96 hours
ethanol	Acute EC50 17.921 mg/l Marine water Acute EC50 2000 µg/l Fresh water Acute LC50 25500 µg/l Marine water	Algae - <i>Ulva pertusa</i> Daphnia - <i>Daphnia magna</i> Crustaceans - <i>Artemia franciscana</i> - Larvae	96 hours 48 hours 48 hours
	Acute LC50 42000 µg/l Fresh water Chronic NOEC 4.995 mg/l Marine water Chronic NOEC 100 ul/L Fresh water	Fish - <i>Oncorhynchus mykiss</i> Algae - <i>Ulva pertusa</i> Daphnia - <i>Daphnia magna</i> - Neonate	4 days 96 hours 21 days
ethyl acetate	Chronic NOEC 0.375 ul/L Fresh water	Fish - <i>Gambusia holbrooki</i> - Larvae	12 weeks
	Acute EC50 2500000 µg/l Fresh water Acute LC50 750000 µg/l Fresh water Acute LC50 154000 µg/l Fresh water Acute LC50 212500 to 225420 µg/l Fresh water Chronic NOEC 2400 µg/l Fresh water Chronic NOEC 75.6 mg/l Fresh water	Algae - <i>Selenastrum</i> sp. Crustaceans - <i>Gammarus pulex</i> Daphnia - <i>Daphnia cucullata</i> Fish - <i>Heteropneustes fossilis</i>	96 hours 48 hours 48 hours 96 hours
hexachlorobuta-1,3-diene	Chronic NOEC 2400 µg/l Fresh water Chronic NOEC 75.6 mg/l Fresh water	Daphnia - <i>Daphnia magna</i> Fish - <i>Pimephales promelas</i> - Embryo	21 days 32 days
	Acute LC50 0.87 mg/l Marine water Acute LC50 90 µg/l Fresh water	Crustaceans - <i>Elminius modestus</i> Fish - <i>Carassius auratus</i>	48 hours 96 hours
propan-2-ol	Acute LC50 1400000 to 1950000 µg/l Marine water	Crustaceans - <i>Crangon crangon</i>	48 hours
	Acute LC50 4200 mg/l Fresh water Acute LC50 428000 µg/l Fresh water Acute LC50 270000 µg/l Marine water	Fish - <i>Rasbora heteromorpha</i> Fish - <i>Pimephales promelas</i> Fish - <i>Menidia beryllina</i>	96 hours 96 hours 96 hours
hexan-2-one chloromethane Methyl Ethyl Ketone	Acute EC50 >500000 µg/l Marine water Acute EC50 5091000 to 6440000 µg/l Fresh water	Algae - <i>Skeletonema costatum</i> Daphnia - <i>Daphnia magna</i> - Larvae	96 hours 48 hours
	Acute LC50 5600 ppm Fresh water Acute LC50 505000 µg/l Fresh water Chronic NOEC >78 mg/l Fresh water Chronic NOEC 168 mg/l Fresh water	Fish - <i>Gambusia affinis</i> - Adult Fish - <i>Pimephales promelas</i> Daphnia - <i>Daphnia magna</i> Fish - <i>Pimephales promelas</i> - Embryo	96 hours 96 hours 21 days 33 days
tert-butyl methyl ether dichloromethane	Acute LC50 672000 µg/l Fresh water Acute EC50 242 mg/l Fresh water	Fish - <i>Pimephales promelas</i> Algae - <i>Chlamydomonas reinhardtii</i> - Exponential growth phase	96 hours 72 hours
	Acute EC50 99000 to 121500 µg/l Fresh water Acute LC50 329 ppm Marine water	Fish - <i>Pimephales promelas</i> Crustaceans - <i>Americamysis bahia</i>	96 hours 48 hours
4-methylpentan-2-one	Acute LC50 220000 to 330000 µg/l Fresh water Chronic NOEC 56000 µg/l Fresh water	Daphnia - <i>Daphnia magna</i> Algae - <i>Pseudokirchneriella subcapitata</i>	48 hours 96 hours
	Acute EC50 504 ppm Marine water Acute EC50 3.64 mg/l Fresh water	Algae - <i>Skeletonema costatum</i> Algae - <i>Chlamydomonas reinhardtii</i> - Exponential growth phase	96 hours 72 hours
tetrachloroethylene	Acute EC50 504 ppm Marine water Acute EC50 3.64 mg/l Fresh water	Algae - <i>Skeletonema costatum</i> Algae - <i>Chlamydomonas reinhardtii</i> - Exponential growth phase	96 hours 72 hours

Section 12. Ecological information

trichloroethylene	Acute EC50 7500 to 9000 µg/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 EC10 1.77 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Chronic NOEC >0.4 mg/l Fresh water Chronic NOEC 500 µg/l Fresh water	Daphnia - Daphnia magna Fish - Pimephales promelas - Larvae	21 days 32 days
trans-dichloroethylene	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 18 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 3100 µg/l Fresh water	Fish - Jordanella floridae - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
vinyl acetate	Chronic EC10 12.3 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Chronic NOEC 10 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute LC50 220000 to 290000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	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
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
p-xylene	Acute EC50 3200 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 4730 to 6310 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 2 µl/L Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute EC50 4700 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 1390 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
o-xylene	Acute LC50 38000 µg/l Marine water	Crustaceans - Cancer magister - Zoea	48 hours
	Acute LC50 7600 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 375000 µg/l Fresh water	Fish - Oreochromis mossambicus	96 hours
	Acute EC50 4900 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 5770 to 7640 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
heptane	Acute LC50 23600 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 8400 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 113000 µg/l Fresh water	Fish - Oreochromis mossambicus	96 hours
	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
m-xylene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
n-hexane	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours

Section 12. Ecological information

benzene	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 2930 to 4400 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 40000 µg/l Marine water	Crustaceans - Cancer magister - Zoea	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	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
1,3,5-Trimethylbenzene	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 NOEC 98 mg/l Fresh water	Daphnia - Daphnia magna	21 days
1,2,4-trimethylbenzene	Chronic NOEC 1.5 to 5.4 ul/L Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	4 weeks
	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
1,2,4-trimethylbenzene	Acute LC50 4910 µg/l Marine water	Crustaceans - Elasmopus pecteniscrus - Adult	48 hours
	Acute LC50 22.4 mg/l Fresh water	Fish - Tilapia zillii	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Nitrogen	0.67	-	low
methyl methacrylate	1.38	-	low
Acrolein	-0.01	344	low
dibromochloromethane	2.16	-	low
bromomethane	1.99	-	low
1,2-dichloropropane	1.99 to 2.28	1.2 to 3.2	low
styrene	0.35	13.49	low
tetrahydrofuran	0.45	-	low
Methane, dichlorodifluoro-	2.16	6.17	low
1,2-dichlorotetrafluoroethane	2.82	-	low
1,1,2-Trichlorotrifluoroethane	3.16	50.12	low
acetone	-0.23	-	low
4-ethyltoluene	3.63	-	low
1,4-Dioxane	-0.42	0.3 to 0.7	low
1,2-dichlorobenzene	3.38	150 to 230	low
1,2-dichloroethane	1.45	2	low
1,2-dibromoethane	2.0106	15.14	low
1,1,2,2-tetrachloroethane	2.39	12.88	low
1,1,2-trichloroethane	1.89	5.01	low
1,1,1-trichloroethane	2.49	9	low
1,1-dichloroethylene	2.13	12.88	low
1,1-dichloroethane	1.79	-	low
1,2,4-trichlorobenzene	4.05	2089.3	high
1,3-butadiene	1.99	10	low
1,3-dichlorobenzene	3.53	213.8	low
1,4-dichlorobenzene	3.37	296	low
α-chlorotoluene	2.3	-	low
bromodichloromethane	2	-	low
bromoform	2.4	13.49	low

Section 12. Ecological information

carbon disulphide	1.94	19.5	low
carbon tetrachloride	2.83	49.9 to 75.1	low
chlorobenzene	2.46	4.3 to 40	low
trichloromethane	1.97	690	high
cis-dichloroethylene	1.86	-	low
(Z)-1,3-dichloropropene	1.82	-	low
cyclohexane	3.44	167	low
ethanol	-0.35	-	low
ethyl acetate	0.68	30	low
Ethyl chloride	1.43	-	low
hexachlorobuta-1,3-diene	4.78	6606.93	high
propan-2-ol	0.05	-	low
hexan-2-one	1.38	-	low
chloromethane	0.91	-	low
Methyl Ethyl Ketone	0.3	-	low
4-methylpentan-2-one	1.9	-	low
tert-butyl methyl ether	1.04	1.5	low
dichloromethane	1.25	22.91	low
tetrachloroethylene	2.53	49	low
propylene	1.77	-	low
Methane, trichlorofluoro-	2.53	-	low
trichloroethylene	2.53	17	low
trans-dichloroethylene	2.09	-	low
Trans-1,3-Dichloropropene	2.03	-	low
vinyl acetate	0.73	3.16	low
vinyl chloride	1.38	-	low
toluene	2.73	90	low
p-xylene	3.15	8.1 to 25.9	low
o-xylene	3.12	8.1 to 25.9	low
heptane	4.66	552	high
m-xylene	3.2	8.1 to 25.9	low
n-hexane	4	501.187	high
ethylbenzene	3.6	-	low
benzene	2.13	11	low
1,3,5-Trimethylbenzene	3.42	161	low
1,2,4-trimethylbenzene	3.63	243	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	-	-	-	-	-
Environment	No.	No.	No.	No.	No.
Additional information	-	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).	-	-	-

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

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.

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; Acrolein
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): Not determined.
Clean Water Act (CWA) 307: benzene; ethylbenzene; toluene; vinyl chloride; Trans-1,3-Dichloropropene; trans-dichloroethylene; trichloroethylene; tetrachloroethylene; dichloromethane; chloromethane; hexachlorobuta-1,3-diene; chloroethane; (Z)-1,3-dichloropropene; cis-dichloroethylene; trichloromethane; chlorobenzene; carbon tetrachloride; bromoform; bromodichloromethane; 1,4-dichlorobenzene; 1,3-dichlorobenzene; 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; Acrolein
Clean Water Act (CWA) 311: benzene; ethylbenzene; m-xylene; o-xylene; p-xylene; toluene; vinyl acetate; Trans-1,3-Dichloropropene; trichloroethylene; cyclohexane; (Z)-1,3-dichloropropene; trichloromethane; chlorobenzene; carbon tetrachloride; carbon disulphide; α -chlorotoluene; 1,4-dichlorobenzene; 1,3-dichlorobenzene; 1,1-dichloroethylene; 1,2-dibromoethane; 1,2-dichloroethane; 1,2-dichlorobenzene; styrene; 1,2-dichloropropane; Acrolein; methyl methacrylate

Section 15. Regulatory information

Clean Air Act Section 112 : Not listed

(b) Hazardous Air Pollutants (HAPs)

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

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
vinyl acetate	0.0000001 - 0.0005	Yes.	1000	129	5000	644.8
trichloromethane	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	-
Acrolein	0.0000001 - 0.0005	Yes.	500	71.4	1	0.14

SARA 304 RQ : 200000 lbs / 90800 kg

SARA 311/312

Classification : Sudden release of pressure

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Nitrogen	99	No.	Yes.	No.	No.	No.
methyl methacrylate	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
Acrolein	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
dibromochloromethane	0.0000001 - 0.0005	No.	No.	No.	Yes.	No.
bromomethane	0.0000001 - 0.0005	Yes.	Yes.	No.	Yes.	Yes.
1,2-dichloropropane	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
styrene	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	Yes.
tetrahydrofuran	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	Yes.
Methane, dichlorodifluoro-	0.0000001 - 0.0005	No.	Yes.	No.	No.	No.
1,2-dichlorotetrafluoroethane	0.0000001 - 0.0005	No.	Yes.	No.	No.	No.
1,1,2-Trichlorotrifluoroethane	0.0000001 - 0.0005	No.	No.	No.	Yes.	No.

Section 15. Regulatory information

acetone	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
1,4-dioxane	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	Yes.
1,2-dichlorobenzene	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
1,2-dichloroethane	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	Yes.
1,2-dibromoethane	0.0000001 - 0.0005	No.	No.	No.	Yes.	Yes.
1,1,2,2-tetrachloroethane	0.0000001 - 0.0005	No.	No.	No.	Yes.	Yes.
1,1,2-trichloroethane	0.0000001 - 0.0005	No.	No.	No.	Yes.	Yes.
1,1,1-trichloroethane	0.0000001 - 0.0005	No.	No.	No.	Yes.	No.
1,1-dichloroethylene	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	Yes.
1,1-dichloroethane	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
1,2,4-trichlorobenzene	0.0000001 - 0.0005	No.	No.	No.	Yes.	No.
1,3-butadiene	0.0000001 - 0.0005	Yes.	Yes.	Yes.	Yes.	Yes.
1,3-dichlorobenzene	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
1,4-dichlorobenzene	0.0000001 - 0.0005	No.	No.	No.	Yes.	Yes.
α -chlorotoluene	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	Yes.
bromodichloromethane	0.0000001 - 0.0005	No.	No.	No.	Yes.	Yes.
bromoform	0.0000001 - 0.0005	No.	No.	No.	Yes.	No.
carbon disulphide	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	Yes.
carbon tetrachloride	0.0000001 - 0.0005	No.	No.	No.	Yes.	Yes.
chlorobenzene	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
trichloromethane	0.0000001 - 0.0005	No.	No.	No.	Yes.	Yes.
cis-dichloroethylene	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
(Z)-1,3-dichloropropene	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
cyclohexane	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
ethanol	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
ethyl acetate	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
Ethyl chloride	0.0000001 - 0.0005	Yes.	Yes.	No.	No.	Yes.
hexachlorobuta-1,3-diene	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
propan-2-ol	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
hexan-2-one	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	Yes.
chloromethane	0.0000001 - 0.0005	Yes.	Yes.	No.	Yes.	Yes.
Methyl Ethyl Ketone	0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.

Section 15. Regulatory information

4-methylpentan-2-one	0005 0.0000001 - 0.0005	Yes.	No.	No.	Yes.	Yes.
tert-butyl methyl ether	0005 0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
dichloromethane	0005 0.0000001 - 0.0005	No.	No.	No.	Yes.	Yes.
tetrachloroethylene	0005 0.0000001 - 0.0005	No.	No.	No.	Yes.	Yes.
propylene	0005 0.0000001 - 0.0005	Yes.	Yes.	No.	No.	No.
trichloroethylene	0005 0.0000001 - 0.0005	No.	No.	No.	Yes.	Yes.
trans-dichloroethylene	0005 0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
vinyl acetate	0005 0.0000001 - 0.0005	Yes.	No.	No.	Yes.	Yes.
vinyl chloride	0005 0.0000001 - 0.0005	Yes.	Yes.	No.	No.	Yes.
toluene	0005 0.0000001 - 0.0005	Yes.	No.	No.	Yes.	Yes.
p-xylene	0005 0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
o-xylene	0005 0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
heptane	0005 0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
m-xylene	0005 0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
n-hexane	0005 0.0000001 - 0.0005	Yes.	No.	No.	Yes.	Yes.
ethylbenzene	0005 0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
benzene	0005 0.0000001 - 0.0005	Yes.	No.	No.	Yes.	Yes.
1,3,5-Trimethylbenzene	0005 0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.
1,2,4-trimethylbenzene	0005 0.0000001 - 0.0005	Yes.	No.	No.	Yes.	No.

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 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.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
benzene	Yes.	Yes.	6.4 µg/day (ingestion) 13 µg/day (inhalation)	24 µg/day (ingestion) 49 µg/day (inhalation)
ethylbenzene	Yes.	No.	41 µg/day (ingestion) 54 µg/day (inhalation)	No.
toluene	No.	Yes.	No.	7000 µg/day

Section 15. Regulatory information

vinyl chloride	Yes.	No.	Yes.	(ingestion)
trichloroethylene	Yes.	Yes.	14 µg/day (ingestion)	No.
tetrachloroethylene	Yes.	No.	50 µg/day (inhalation)	No.
dichloromethane	Yes.	No.	200 µg/day (inhalation)	No.
Methyl Isobutyl Ketone	Yes.	Yes.	No.	No.
chloromethane	No.	Yes.	No.	No.
hexan-2-one	No.	Yes.	No.	No.
hexachlorobuta-1,3-diene	Yes.	No.	No.	No.
chloroethane	Yes.	No.	Yes.	No.
trichloromethane	Yes.	Yes.	20 µg/day (ingestion)	No.
carbon tetrachloride	Yes.	No.	40 µg/day (inhalation)	No.
carbon disulphide	No.	Yes.	Yes.	No.
bromoform	Yes.	No.	No.	No.
bromodichloromethane	Yes.	No.	Yes.	No.
α-chlorotoluene	Yes.	No.	Yes.	No.
1,4-dichlorobenzene	Yes.	No.	Yes.	No.
1,3-butadiene	Yes.	Yes.	Yes.	No.
1,1-dichloroethane	Yes.	No.	Yes.	No.
1,1,2-trichloroethane	Yes.	No.	Yes.	No.
1,1,1,2-tetrachloroethane	Yes.	No.	Yes.	No.
1,2-dibromoethane	Yes.	Yes.	0.2 µg/day (ingestion)	No.
1,2-dichloroethane	Yes.	No.	3 µg/day (inhalation)	No.
1,4-dioxane	Yes.	No.	Yes.	No.
styrene	Yes.	No.	No.	No.
1,2-dichloropropane	Yes.	No.	Yes.	No.
bromomethane	No.	Yes.	No.	810 µg/day (inhalation)

[International regulations](#)

[International lists](#)

[National inventory](#)

- 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** : Not determined.
- Malaysia** : Not determined.
- New Zealand** : Not determined.
- Philippines** : Not determined.
- Republic of Korea** : Not determined.
- Taiwan** : All components are listed or exempted.

[Canada](#)

- WHMIS (Canada)** : Class A: Compressed gas.
CEPA Toxic substances: None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: None of the components are listed.
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.

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

Health	1
Flammability	0
Physical hazards	3

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

Classification	Justification
Press. Gas Comp. Gas, H280	On basis of test data

History

Date of printing : 12/10/2016

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Date of previous issue : No previous validation

Version : 0.01

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 73/78 = 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.

☑ Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

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.