

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Sievert MAPP

1.2. Recommended use and restrictions on use

Recommended use: Welding and brazing.
Restrictions on use: Any use other than the above identified.

1.3. Supplier

Rothenberger USA, Inc.
7130 Clinton Road
Loves Park, IL 61111 - USA
T 800-545-7698

1.4. Emergency telephone number

Emergency number : ChemTel – Domestic: 1-800-255-3924, International: +1-813-248-0585
Contract number: MIS9223846

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Flammable Gas – Category 1A H220
Gas Under Pressure – Liquefied Gas H280

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) : H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.

Precautionary statements (GHS US) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 – In case of leakage, eliminate all ignition sources
P403 - Store in a well-ventilated place.
P410+P403 - Protect from sunlight. Store in a well-ventilated place.

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : Physico-chemical: The product may form explosive mixtures with air, especially in confined spaces. Vapors are heavier than air and may accumulate at or below ground level. A strong heating of the cylinder (e.g., in case of fire) causes a relevant increase in volume of the liquid and pressure, with the risk of bursting.
Human health: The accumulation of the product - especially in confined spaces - may cause asphyxiation due to lack of oxygen. The contact with liquid may cause serious frostbite injuries to the skin and eyes.
Environment: The product does not meet criteria for PBT or vPvB classification according to Annex XIII of Regulation (EC) 1907/2006 (REACH).

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%
Propene	(CAS-No.) 115-07-1	100

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3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person. High concentrations of vapors may cause asphyxia. Symptoms may include loss of mobility/consciousness. Victims may not realize the asphyxia. Remove victim to ventilated area, wearing a self-contained breathing apparatus. Keep victim warm and rested. Immediately call a doctor.
- First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if breathing is affected. If breathing is difficult, supply oxygen.
- First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention.
- First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing if pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing.
- First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Get medical attention if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects : High concentrations of vapors may cause asphyxia, with symptoms such as loss of mobility/consciousness. Victims may not realize the asphyxia. Low concentrations of vapors may cause respiratory tract irritation and have a narcotic effect, with symptoms such as dizziness, headache, nausea and loss of coordination. Contact with the rapidly evaporating liquid may cause cold frostbite.
- Symptoms/effects after inhalation : May cause respiratory irritation. In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation.
- Symptoms/effects after skin contact : May cause frostbite on contact with liquefied gas.
- Symptoms/effects after eye contact : Contact with the liquid may cause frostbite and serious damage to eyes.
- Symptoms/effects after ingestion : May cause gastrointestinal irritation.

4.3. Immediate medical attention and special treatment, if necessary

For indication of any immediate medical attention and/or special treatment, see SECTION 4.1. Symptoms related to inhalation of vapors may also occur after some time from the exposure. Show the doctor product label and/or safety data sheet.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder.
- Unsuitable extinguishing media : Carbon dioxide (CO₂). Water jet.

5.2. Specific hazards arising from the chemical

- Fire hazard : Extremely flammable gas.
- Explosion hazard : Contains gas under pressure; may explode if heated.
- Reactivity : No dangerous reactions known under normal conditions of use.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment. Evacuate and isolate the area until complete fire extinction, by limiting access only to trained personnel. In the event of a fire due to gas leakage, do not extinguish, unless leak can be stopped safely. It is therefore preferable to have a release of ignited gas, rather than a cloud of gas expanding towards a source of ignition. Significant ignition releases - if they can't be shut off by intercepting the gas flow - must be reduced and kept under control with the use of fractional jet hydrants, also with the aim of reducing the concentration of any gas clouds below the lower explosive limit. Request the intervention of firefighters, if you are not sure of being able to extinguish the fire in a short time with the extinguishing media available. Cool containers exposed to fire with water spray in order to avoid overheating and the consequent danger of bursting. Firefighters must always wear appropriate protective equipment (helmet, boots, fireproof gloves and positive pressure self-contained breathing apparatus with a face shield) [ref. EN 469]. Prevent the contaminated extinguishing water flowing into drains or waterways.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection.

6.1.1. For non-emergency personnel

Protective equipment : Wear Protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Wear appropriate personal protective equipment (see SECTION 8.2). In case of intervention in areas with a high concentration of gas (e.g. confined spaces), wear a self-contained breathing apparatus. Stay upwind, if this can be done without risk. Use fractional jet hydrants, also with the aim of reducing the concentration of any gas clouds below the lower explosive limit. Prevent the gas from spreading in lowered areas, since vapors are heavier than air and may accumulate at or below ground level. Orient cylinders so as to avoid the leakage of liquid, if this can be done without risk.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : The personnel handling the product must be instructed about its specific risks and the safety measures to be taken. Ensure adequate ventilation. Avoid release of the product into the atmosphere. Do not breathe gas/vapors. Avoid contact with eyes, skin and clothing. Wear appropriate personal protective equipment (see SECTION 8.2). Remove the air from the system before introducing the gas. Use only specific equipment, suitable for the product, pressure and operating temperature. Use non sparking equipment only. Do not use electrical equipment if not equipped with an explosion protection system. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Provide grounding of vessels, pipes and equipment. Take precautions against electrostatic discharge. Keep away from incompatible materials (see SECTION 10.5). Keep away from combustible materials. Protect cylinders from physical damage; do not drag, roll, slide or drop. Do not remove or deface labels applied on cylinders. When moving cylinders, use a cart (trolley, hand truck, etc.) designed to their transport.
Fix always the cylinders in vertical position. Do not allow backfeed into the cylinder. Slowly open the valve to avoid pressure surges. Close valve after each use and when cylinder is empty. Leave valve protection caps in place until the cylinder has been secured and is ready for use. Replace valve outlet caps as soon as container is disconnected from equipment. Damaged valves should be reported immediately to the supplier. Never attempt to repair or modify cylinder valves or safety relief devices. Keep container valve outlets clean and free from contaminants particularly oil and water. Never attempt to transfer gases from one cylinder to another. Do not eat, drink, or smoke during use.
Wash hands and other exposed areas after use. Wash periodically clothes and personal protective equipment to remove contaminants.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Use only non-sparking tools. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling. Keep at temperatures below 49 °C / 120 °F. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents.

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Storage conditions	: The product is subject to the provisions of Directive 2012/18/EU (SEVESO III) as a flammable gas (P2). The electrical equipment present in the storage area must be compatible with the risk of forming explosive atmospheres. Store the cylinders in a vertical position and anchored in order to prevent their fall. Store the cylinders in conditions that avoid corrosive phenomena. Store in a cool, dry and well ventilated place. Protect from sunlight and do not expose to temperatures exceeding 50 °C. Store away from heat, hot surfaces, sparks, open flames and other ignition sources. Not smoking. Provide grounding of vessels, pipes and equipment. Take precautions against electrostatic discharge. Store away from incompatible materials (see SECTION 10.5). Store away from combustible materials. Check periodically the cylinders in order to verify general conditions and any leaks.
Heat and ignition sources	: Avoid ignition sources.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Propene (115-07-1)		
ACGIH	ACGIH OEL TWA [ppm]	500 ppm
ACGIH	Remark (ACGIH)	TLV® Basis: Asphyxia; URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
ACGIH	Regulatory reference	ACGIH 2021

8.2. Appropriate engineering controls

Appropriate engineering controls	: Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.
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8.3. Individual protection measures/Personal protective equipment

Personal protective equipment symbol(s):



Personal protective equipment:

Wear anti-static fireproof work clothes and safety shoes. Antistatic gloves. Safety glasses with side protection. Full face mask with type AX filter (brown) for organic vapors.

Hand protection:

Wear antistatic gloves with high resistance to abrasion, to protect against mechanical risks (material = neoprene; penetration time = 240 minutes) [ref. EN 388]. In case of thermal risk (cold frostbite) by jet of liquid, wear heat-insulating gloves (material = nitrile rubber; penetration time = 240 minutes) [ref. EN 511]. Replace immediately the gloves in case of contamination or breakage.

Eye protection:

Wear safety glasses with side protection. In case of thermal risk (cold frostbite) by liquid jet, wear a visor or a face shield [ref. EN 166].

Skin and body protection:

Wear anti-static fireproof work clothes (suitable to cover the upper and lower limbs) [ref. EN 943] and safety shoes [ref. EN ISO 20345].

Respiratory protection:

Wear a full face mask with type AX filter (brown) for organic vapors [ref. EN 136/EN 14387]. In case of intervention in areas with a high concentration of gas (e.g. confined spaces), wear a self-contained breathing apparatus [ref. EN 529].

Technical and hygienic measures:

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Handle the product only in closed systems. Provide local exhaust ventilation suction or other devices to maintain the levels of particles in the air below the recommended exposure limits. In the event that a release of flammable gases or vapors may occur, provide for the use of appropriate detectors. Check periodically the under pressure systems in order to verify the absence of leaks. Equip with emergency showers and eyewash device the areas in which handling and storage of the product takes place. Do not eat, drink, or smoke during use. Wash hands and other exposed areas after use. Wash periodically clothes and personal protective equipment to remove contaminants.

Environmental measures:

Operate in accordance with the provisions of the relevant legislation concerning the water protection, waste management and limitation of the emissions into the atmosphere.

Thermal hazards:

The product is an extremely flammable gas. Protect from sunlight and do not expose to temperatures exceeding 50 °C.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Liquefied compressed gas
Color	: Colorless
Odor	: Characteristic
Odor threshold	: Subjective and inadequate to experience overexposure
pH	: No data available
Melting point	: -185 °C (-301 °F)
Freezing point	: No data available
Boiling point	: -48 °C (-54.4 °F)
Critical temperature	: 92.4 °C (198.3 °F)
Critical pressure	: 4620.4 kPa (45.6 atm)
Flash point	: < -108 °C (-162.4 °F)
Relative evaporation rate (butylacetate=1)	: Evaporates rapidly in the atmosphere
Flammability (solid, gas)	: No data available
Vapor pressure	: < 1071.4 kPa (20 °C)
Relative vapor density at 20 °C	: 1.49
Relative density	: 0.6 (liquid) (water = 1)
Relative gas density	: 1.5 (water = 1)
Solubility	: Water: 380 mg/l (20 °C)
Partition coefficient n-octanol/water (Log Pow)	: 1.77
Auto-ignition temperature	: 455 °C (851 °F)
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 0.083 mPa·s (16.7 °C / 62 °F)
Explosive limits	: LIE = 1.9 - 5.3 vol% ; LSE = 8.5 - 15 vol%
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

Vapors may form explosive mixture with air. Reacts with oxidizing agents, may cause exothermic reaction.

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10.4. Conditions to avoid

Avoid sunlight, heat, flames, high temperatures, sparks, static electricity and other sources of ignition. Avoid contact with incompatible materials.

10.5. Incompatible materials

Oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Incomplete burning can produce carbon monoxide (CO), carbon dioxide (CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: LC50 (rat) = 369733 ppm (4 hours)

Propene (115-07-1)

LC50 Inhalation - Rat	658 mg/l/4h
Skin corrosion/irritation	: Not classified. Eye contact with liquefied gas may cause cold frostbite.
Serious eye damage/irritation	: Not classified. Eye contact with liquefied gas may cause cold frostbite.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified. Gene mutation test in mammalian cells (in vitro) = negative Gene mutation test in bacteria (in vitro) = negative
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: NOAEL (rat) = 10.000 PPM (1-20 days) – The product is flammable at room temperature and standard pressure and is capable of forming explosive mixtures with air. Therefore, experiments on the possible effects of chronic oral/dermal toxicity are not considered practicable or relevant.
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects	: Not expected to present a significant hazard under anticipated conditions of normal use. Gas can be toxic as a simple asphyxiant by displacing oxygen from the air. Refrigerated liquefied gas. Contact with product may cause cold burns or frostbite.
Symptoms/effects after inhalation	: May cause respiratory irritation. In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation.
Symptoms/effects after skin contact	: May cause frostbite on contact with liquefied gas.
Symptoms/effects after eye contact	: Contact with the liquid may cause frostbite and serious damage to eyes.
Symptoms/effects after ingestion	: May cause gastrointestinal irritation.

SECTION 12: Ecological information

12.1. Toxicity

Sievert MAPP Gas	
NOEC (fishes)	51.7 mg/l (30 days)
LC50 - fish	51.7 mg/l (96 hr) (QSAR estimation)
EC50 - crustacea	3.1 mg/l (16 days)
EC50 - crustacea	28.2 mg/l (48 hr) (QSAR estimation)
NOEC (algae)	4.5 mg/l (96 hr)
EC50 - algae	12.1 mg/l (96 hr) (QSAR estimation)

12.2. Persistence and degradability

Sievert MAPP Gas	
Biodegradation	50 % (2.36 days) (QSAR estimation)
Persistence and degradability	Expected to be biodegradable. Not persistent.

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12.3. Bioaccumulative potential

Sievert MAPP Gas	
Log Pow	1.77
Bioaccumulative potential	This material is not expected to bioaccumulate.

12.4. Mobility in soil

Sievert MAPP Gas	
Henry's law constant	1.099 MPa (25 °C)
Mobility in soil	Due to the high volatility, the product is not expected to cause pollution of soil and groundwater.

12.5. Other adverse effects

- Other adverse effects : No data available.
- Effect on global warming : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Disposal methods

- Waste treatment methods : Disposal of the product and contaminated containers must be carried out in compliance with the provisions of the applicable legislation and entrusted to qualified companies authorized to treat flammable waste. The product gives a hazardous character to waste that contains residues, due to its flammability and the possibility of formation of explosive atmospheres. Take all necessary measures to avoid the dispersion of product into the atmosphere. Do not discharge into areas where the accumulation can be hazardous and/or where there is a risk of forming explosive atmospheres with air. Dispose of the gas in a suitable flame retardant torch. In any case, contact the supplier for further information on the correct disposal of the product and container. The empty container may contain combustible product residues. Do not pierce or burn the empty container. Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at <http://www.eiga.org> for more guidance on suitable disposal methods.
- Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

- Transport document description (DOT) : UN1077 Propylene, 2.1
- UN-No.(DOT) : UN1077
- Proper Shipping Name (DOT) : Propylene
- Class (DOT) : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115
- Hazard labels (DOT) : 2.1 - Flammable gas



- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : Forbidden
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 150 kg
- DOT Vessel Stowage Location : E - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length, but is prohibited from carriage on passenger vessels in which the limiting number of passengers is exceeded.
- DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"
- Emergency Response Guide (ERG) Number : 115
- Other information : No supplementary information available.

Transportation by road/rail

- Transport document description (ADR/RID) : UN 1077 PROPYLENE, 2.1
- UN-No. (ADR/RID) : 1077
- Proper Shipping Name (ADR/RID) : PROPYLENE

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Class (ADR/RID) : 2 - Gases
Limited quantities (ADR/RID) : 0
Classification code : 2 F
Hazard identification number : 23
Tunnel Restriction code : B/D
Limited quantities : 0
Exempted quantities : E0
Packing instructions : P200

Transport by sea (IMDG)

Transport document description (IMDG) : UN 1077 PROPYLENE, 2.1
UN-No. (IMDG) : 1077
Proper Shipping Name (IMDG) : PROPYLENE
Class (IMDG) : 2 - Gases
Limited quantities (IMDG) : 0
EMS number : F-D, S-U
Exempted quantities : E0
Packing instructions : P200

Air transport (IATA)

Transport document description (IATA) : UN 1077 Propylene, 2.1
UN-No. (IATA) : 1077
Proper Shipping Name (IATA) : Propylene
Class (IATA) : 2 - Gases
Limited quantities : E0
Packing instructions : P200
Special Instructions : Cargo Aircraft Only

SECTION 15: Regulatory information

15.1. US Federal regulations

Sievert MAPP Gas

All chemical substances in this product are listed as "Active" in the EPA (Environmental Protection Agency) "TSCA Inventory Notification (Active-Inactive) Requirements Rule" ("the Final Rule") of Feb 2019, as amended Feb 2021 or are otherwise exempt, or regulated by other agencies such as FDA or FIFRA

SARA Section 311/312 Hazard Classes	Physical hazard - Flammable (gases, aerosols, liquids, or solids) Physical hazard - Gas under pressure
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Propene (115-07-1)

Subject to reporting requirements of United States SARA Section 313

15.2. International regulations

No additional information available

15.3. US State regulations

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm.

Component	State or local regulations
Propene (115-07-1)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List; U.S. - Massachusetts - Right To Know List

SECTION 16: Other information

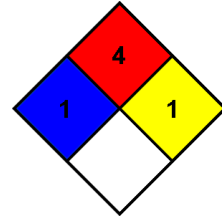
Other information : Author: EMA.

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- NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.
- NFPA fire hazard : 4 - Materials that rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and burn readily.
- NFPA reactivity : 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



HMIS Hazard Rating

- Health : 1
- Flammability : 4
- Physical : 1

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.