

**1 Identification**

- **Product identifier**
- **Product Name:** 1,1,2,2-Tetrachloroethane
- **Part Number:** S-3390
- **Application of the substance / the mixture** Certified Reference Material
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
SPEX CertiPrep, LLC.  
203 Norcross Ave, Metuchen,  
NJ 08840 USA
- **Information department:** product safety department
- **Emergency telephone number:**  
Emergency Phone Number (24 hours)  
CHEMTREC (800-424-9300)  
Outside US: 703-527-3887

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS06 Skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.

STOT SE 1 H370 Causes damage to organs.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02



GHS06



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

methanol

1,1,2,2-tetrachloroethane

- **Hazard statements**

H225 Highly flammable liquid and vapor.

H331 Toxic if inhaled.

H351 Suspected of causing cancer.

H370 Causes damage to organs.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

Do not breathe dust/fume/gas/mist/vapors/spray.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

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acc. to OSHA HCS

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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMS-ratings (scale 0 - 4)**

HEALTH	1	Health = *1
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

67-56-1	methanol	99.9%
79-34-5	1,1,2,2-tetrachloroethane	0.1%

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Remove breathing apparatus only after contaminated clothing have been completely removed.  
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**  
Supply fresh air or oxygen; call for doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Do not give anything to eat or drink - Do not induce vomiting
- **Information for Doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.

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· **Reference to other sections**

- See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

· **Protective Action Criteria for Chemicals**

· **PAC-1:**

67-56-1	methanol	530 ppm
79-34-5	1,1,2,2-tetrachloroethane	3 ppm

· **PAC-2:**

67-56-1	methanol	2,100 ppm
79-34-5	1,1,2,2-tetrachloroethane	120 ppm

· **PAC-3:**

67-56-1	methanol	7200* ppm
79-34-5	1,1,2,2-tetrachloroethane	150 ppm

## 7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

- Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.

· **Information about protection against explosions and fires:**

- Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

- **Requirements to be met by storerooms and receptacles:** Store in a cool location.  
· **Information about storage in one common storage facility:** Not required.  
· **Further information about storage conditions:**

- Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.

· **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**67-56-1 methanol**

PEL Long-term value: 260 mg/m<sup>3</sup>, 200 ppm

REL Short-term value: 325 mg/m<sup>3</sup>, 250 ppm

Long-term value: 260 mg/m<sup>3</sup>, 200 ppm  
Skin

TLV Short-term value: 328 mg/m<sup>3</sup>, 250 ppm

Long-term value: 262 mg/m<sup>3</sup>, 200 ppm  
Skin; BEI

**79-34-5 1,1,2,2-tetrachloroethane**

PEL Long-term value: 35 mg/m<sup>3</sup>, 5 ppm

Skin

REL Long-term value: 7 mg/m<sup>3</sup>, 1 ppm

Skin; See Pocket Guide Apps. A and C

TLV Long-term value: 6.9 mg/m<sup>3</sup>, 1 ppm

Skin

· **Ingredients with biological limit values:**

**67-56-1 methanol**

BEI 15 mg/L

Medium: urine

Time: end of shift

Parameter: Methanol (background, nonspecific)

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· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid

Color: According to product specification

· **Odor:** Characteristic

· **Odour Threshold:** Not applicable.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 64 °C (147.2 °F)

· **Flash point:** < 23 °C (<73.4 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 455 °C (851 °F)

· **Decomposition temperature:** Not applicable.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

Lower: 5.5 Vol %

Upper: 44 Vol %

· **Vapor pressure at 20 °C (68 °F):** 128 hPa (96 mm Hg)

· **Density at 20 °C (68 °F)** 0.79081 g/cm<sup>3</sup> (6.59931 lbs/gal)

· **Relative density** Not applicable.

· **Vapor density** Not applicable.

· **Evaporation rate** Not applicable.

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- **Solubility in / Miscibility with Water:** Fully miscible.
- **Partition coefficient (n-octanol/water):** Not applicable.
- **Viscosity:**
  - Dynamic:** Not applicable.
  - Kinematic:** Not applicable.
- **Solvent content:**
  - Organic solvents:** 99.9 %
  - VOC content:** 99.90 %
- **Solids content:** 0.0 %
- **Other information** No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**67-56-1 methanol**

Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)

**79-34-5 1,1,2,2-tetrachloroethane**

Oral	LD50	800 mg/kg (rat)
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- **Primary irritant effect:**
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Toxic
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

79-34-5	1,1,2,2-tetrachloroethane	2B
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· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

· <b>UN-Number</b> · <b>DOT, ADR, IMDG, IATA</b>	UN1230
· <b>UN proper shipping name</b> · <b>DOT</b> · <b>ADR</b> · <b>IMDG, IATA</b>	Methanol 1230 METHANOL METHANOL
· <b>Transport hazard class(es)</b> · <b>DOT</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids 3, 6.1
· <b>ADR</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids 3+6.1
· <b>IMDG</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids 3/6.1
· <b>IATA</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids 3 (6.1)
· <b>Packing group</b> · <b>DOT, ADR, IMDG, IATA</b>	II
· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b>	Warning: Flammable liquids 336 F-E,S-D

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· <b>Stowage Category</b>	B
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	IL
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1230 METHANOL, 3 (6.1), II

### 15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture

· Sara

· **Section 313 (Specific toxic chemical listings):**

All ingredients are listed.

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

79-34-5 | 1,1,2,2-tetrachloroethane

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

67-56-1 | methanol

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

79-34-5 | 1,1,2,2-tetrachloroethane

L

· **TLV (Threshold Limit Value established by ACGIH)**

79-34-5 | 1,1,2,2-tetrachloroethane

A3

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

79-34-5 | 1,1,2,2-tetrachloroethane

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02



GHS06



GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

methanol

1,1,2,2-tetrachloroethane

· **Hazard statements**

H225 Highly flammable liquid and vapor.

H331 Toxic if inhaled.

H351 Suspected of causing cancer.

H370 Causes damage to organs.

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· **Precautionary statements**

*Keep away from heat/sparks/open flames/hot surfaces. - No smoking.*

*Use explosion-proof electrical/ventilating/lighting/equipment.*

*Do not breathe dust/fume/gas/mist/vapors/spray.*

*If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Department issuing SDS:** product safety department

· **Contact:**

SPEX CertiPrep, LLC.

1-732-549-7144

· **Date of preparation / last revision** 03/05/2019 / -

· **Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*NIOSH: National Institute for Occupational Safety*

*OSHA: Occupational Safety & Health*

*TLV: Threshold Limit Value*

*PEL: Permissible Exposure Limit*

*REL: Recommended Exposure Limit*

*BEI: Biological Exposure Limit*

*Flam. Liq. 2: Flammable liquids – Category 2*

*Acute Tox. 3: Acute toxicity – Category 3*

*Carc. 2: Carcinogenicity – Category 2*

*STOT SE 1: Specific target organ toxicity (single exposure) – Category 1*

US