

## SAFETY DATA SHEET

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifiers

Product name           Tetrachloroethylene  
CAS number            127-18-4  
Synonyms               Perchloroethylene

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses           Laboratory chemicals.

#### 1.3 Details of the supplier of the safety data sheet

Company                 Lab Alley, LLC  
                              12501 Pauls Valley Road  
                              Austin, Texas 78737  
                              U.S.A.  
  
Telephone               512-668-9918  
Fax                       512-886-4008

#### 1.4 Emergency telephone

**Emergency Phone #**           US & Canada: 1-800-535-5053           INFOTRAC  
  International 1-352-323-3500           INFOTRAC

### SECTION 2: Hazards identification


#### 2.1 Classification of the substance or mixture

##### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Skin Sensitization	Category 1
Carcinogenicity	Category 1B
Specific Target Organ Toxicity (single exposure)	Category 3
Target Organ(s) - Central nervous system (CNS)	
Specific Target Organ Toxicity (repeated exposure)	Category 2

Target Organ(s) - Kidney, Liver, Blood

## 2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal Word	Danger
Hazard statements	Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause drowsiness and dizziness. May cause cancer. May cause damage to organs through prolonged or repeated exposure.
Precautionary statements	Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fumes/gas/mist/vapors/spray. Wash face, hands, and any exposed skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace.  Response: If exposed or concerned, get medical advice/attention.  IF ON SKIN: Wash with plenty of soap and water.  IF INHALED: Remove person to fresh air and keep comfortable for breathing.  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Take off contaminated clothing.  Storage: Store locked up. Store in a well-ventilated place. Keep container tightly closed.  Disposal: Dispose of contents/container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Toxic to aquatic life with long lasting effects.

# SECTION 3: Composition/information on ingredients

## 3.1 Components

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Chemical name	Common name and synonyms	CAS number	Concentration
Tetrachloroethylene	Perchloroethylene	127-18-4	> 95%

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

- If inhaled** Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
- In case of skin contact** Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
- In case of eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
- If swallowed** Clean mouth with water and drink afterwards plenty of water.

### 4.2 Most important symptoms and effects, both acute and delayed

None reasonably foreseeable. May cause allergic skin reaction. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea, and vomitin. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.

### 4.3 Indication of any immediate medical attention and special treatment needed

If symptoms persist, call a physician and treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** Water spray, Carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam.
- Unsuitable extinguishing media** No information available.

### 5.2 Specific hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. Containers may explode when heated.  
 Hazardous Combustion Products: Chlorine, Phosgene, Hydrogen chloride gas.

### 5.3 Special protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 5.4 Further information

**Flash Point** No information available.

**Autoignition Temperature** No information available.

### Explosion limits

**Upper** No data available.

**Lower** No data available.

**Sensitivity to Mechanical Impact** No information available.

**Sensitivity to Static Discharge** No information available.

### NFPA

Health	Flammability	Instability	Physical hazards
2	0	0	N/A

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Ensure adequate ventilation.

### 6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system.

### 6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Precautions on safe handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation. Avoid ingestion and inhalation.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink, or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

## 7.2 Conditions for safe storage, including any incompatibilities

### Storage conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from sunlight.

### Incompatibilities

Strong acids, strong oxidizing agents, strong bases, metals, zinc, amines, aluminum.

## SECTION 8: Exposure controls/personal protection

### 8.1 Occupational exposure limits

#### US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Tetrachloroethylene	IDLH	150 ppm

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
Tetrachloroethylene	(Vacated) TWA	25 ppm
	(Vacated) TWA	170 mg/m <sup>3</sup>
	Ceiling	200 ppm
	TWA	100 ppm

#### US. ACGIH Threshold Limit Values

Component	Type	Value
Tetrachloroethylene	TWA	25 ppm
	STEL	100 ppm

#### Biological occupational exposure limits

No information available.

### 8.2 Exposure controls

#### Appropriate engineering controls

Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

#### Personal protective equipment

### Eye/face protection

Goggles.

### Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure. Inspect gloves before use. Observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

### Body Protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

### Respiratory protection

When workers are facing concentrations above the exposure limit, they must use appropriate certified respirators. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly.

Recommended Filter type: Organic gases and vapours filter Type A Brown conforming to EN14387.

When RPE is used, a face piece Fit Test should be conducted.

### Control of environmental exposure

Prevent product from entering drains. Do not allow material to contaminate ground water system.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	Characteristic, sweet
Odor Threshold	No information available
pH	No information available
Melting Point/Range	-22 °C / -7.6 °F
Boiling Point/Range	120 - 122 °C / 248 - 251.6 °F @ 760 mmHg
Evaporation Rate	6.0 (Ether = 1.0)
Flammability (solid)	Not applicable
Flammability or explosive limit	No data available
Upper	
Lower	
Vapor Pressure	18 mbar @ 20°C
Vapor Density	No information available
Density	1.62 g/cm <sup>3</sup>

Solubility	0.15 g/L water (20°C)
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	No information available
Decomposition Temp	> 150°C
Viscosity	0.89 mPa s at 20°C
Molecular Formula	C2Cl4
Molecular Weight	165.83 g/mol
VOC Content(%)	No information available
Oxidizing properties	No information available

## 9.2 Other safety information

No information available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No known reactive hazards based on information available.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

None under normal processing.

### 10.4 Conditions to avoid

Incompatible products, excess heat, exposure to moist air or water.

### 10.5 Incompatible materials

Strong acids, strong oxidizing agents, strong bases, metals, zinc, amines, aluminum.

### 10.6 Hazardous decomposition products

Chlorine, Phosgene, Hydrogen chloride gas.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Product Information, Component Information

#### Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tetrachloroethylene	2629 mg/kg (Rat)	> 10000 mg/kg (Rat)	27.8 mg/L (Rat) 4 h

#### Skin corrosion/irritation

Irritating to skin.

**Serious eye damage/eye irritation**

Irritating to eyes.

**Respiratory or skin sensitization**

No information available.

**Germ cell mutagenicity**

No information available.

**Carcinogenicity**

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Tetrachloroethylene	127-18-4	Group 2A	Reasonably Anticipated	A3	X	A3

**Specific target organ toxicity - single exposure**

Central nervous system (CNS)

**Specific target organ toxicity - repeated exposure**

Kidney, Liver, Blood

**Reproductive toxicity**

No information available.

**Chronic effects**

Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chestpain, muscle pain, or flushing.

**11.2 Additional Information**

Tumorigenic effects have been reported in experimental animals.

**SECTION 12: Ecological information****12.1 Toxicity**

Toxic to aquatic organisms; may cause long-term adverse effects in the environment.

Product	Species	Test Results
Tetrachloroethylene	Freshwater Algae (Pseudokirchneriella subcapitata)	EC50 > 500 mg/L, 96 h
	Freshwater Fish (Pimephales promelas)	LC50 = 12.4 - 14.4 mg/L, 96 h flow-through LC50 = 8.6 - 13.5 mg/L, 96 h static
	Freshwater Fish (Lepomis macrochirus)	LC50 = 11.0 - 15.0 mg/L, 96 h static
	Freshwater Fish (Oncorhynchus mykiss)	LC50 = 4.73 - 5.27 mg/L, 96 h flow-through



	Microtox	EC50 = 100 mg/L 24 h EC50 = 112 mg/L 24 h EC50 = 120.0 mg/L 30 min
	Water Flea ( <i>Dagnia magna</i> )	EC50 = 6.1 - 9.0 mg/L, 48 h static

### 12.2 Persistence and degradability

Not readily biodegradable. Persistence is unlikely based on information available.

### 12.3 Bio accumulative potential

No information available.

### 12.4 Mobility in soil

No data available.

### 12.5 Results of PBT and vPvB assessment

No information available.

### 12.6 Endocrine disrupting properties

Component	EU - Endocrine Disrupters Candidate List
Tetrachloroethylene	Group II Chemical

### 12.7 Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### 13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## SECTION 14: Transport information

#### DOT (US)

UN-no	UN1897
Proper Shipping Name	TETRACHLOROETHYLENE
Hazard Class	6.1
Packing Group	III

#### IMDG

UN-no	UN1897
Proper Shipping Name	TETRACHLOROETHYLENE
Hazard Class	6.1

Packing Group III

### **IATA**

UN-no UN1897  
Proper Shipping Name TETRACHLOROETHYLENE  
Hazard Class 6.1  
Packing Group III

## **SECTION 15: Regulatory information**

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**  
Not applicable.

**CERCLA Hazardous Substance List (40 CFR 302.4)**  
Listed, CAS #127-18-4, RQ: 100 lb.

**SARA 304 Emergency release notification**  
Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**  
Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**  
**SARA 302 Extremely hazardous substance**  
Not listed.

**SARA 311/312 Hazardous**  
Acute Health Hazard, Chronic Health Hazard.

**SARA 313 (TRI reporting)**  
Regulated, CAS# 127-18-4.

### **Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**  
Listed, CAS# 127-18-4.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**  
Not regulated.

**Safe Drinking Water Act**  
Not regulated.

**FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace**  
Not listed.

**US state regulations**

**US. Massachusetts RTK - Substance List**

Listed.

**US. New Jersey Worker and Community Right-to-Know Act**

Listed.

**US. Pennsylvania Worker and Community Right-to-Know Law**

Listed.

**California Proposition 65**

Listed.

**SECTION 16: Other information**

Issue date: 09/19/2024

**SECTION 17: Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.