

# SAFETY DATA SHEET

## SECTION 1) CHEMICAL PRODUCT AND MANUFACTURER'S IDENTIFICATION

**Product ID:** 499405  
**Product Name:** Pentrazen 4 Way  
**Revision Date:** Feb 20, 2026 **Date Printed:** Feb 20, 2026  
**Version:** 2.1 **Supersedes Date:** Jun 15, 2020  
**Manufacturer's Name:** Zenex International  
**Address:** One Zenex Circle Cleveland, OH, US, 44146  
**Emergency Phone:** 1-800-535-5053  
**Information Phone Number:** (440) 232-4155

**Product/Recommended Uses:** Non-flammable Lubricant / Penetrant

After December 8, 2026 this chemical substance (as defined in TSCA section 3(2))/product cannot be distributed in commerce to retailers for any use. After March 8, 2027, this chemical substance (as defined in TSCA section 3(2))/product is and can only be distributed in commerce or processed with a concentration of PCE equal to or greater than 0.1% by weight for the following purposes: (1) Processing as a reactant/intermediate; (2) Processing into formulation, mixture or reaction product; (3) Processing by repackaging; (4) Recycling; (5) Industrial and commercial use as solvent in open-top batch vapor degreasing; (6) Industrial and commercial use as solvent in closed-loop batch vapor degreasing; (7) Industrial and commercial use in maskant for chemical milling; (8) Industrial and commercial use as a processing aid in catalyst regeneration in petrochemical manufacturing; (9) Industrial and commercial use as a processing aid in sectors other than petrochemical manufacturing; (10) Industrial and commercial use as solvent for cold cleaning of tanker vessels; (11) Industrial and commercial use as energized electrical cleaner; (12) Industrial and commercial use in laboratory chemicals; (13) Industrial and commercial use in solvent-based adhesives and sealants; (14) Industrial and commercial use in dry cleaning in 3rd generation machines until December 20, 2027; (15) Industrial and commercial use in all dry cleaning and related spot cleaning until December 19, 2034; (16) Export; and (17) Disposal.

## SECTION 2) HAZARDS IDENTIFICATION

### Classification

Gases Under Pressure - Liquefied Gas

Skin Irritation - Category 2

Carcinogenicity - Category 1B

### Pictograms



### Signal Word

Danger

### Hazardous Statements - Physical

H280 - Contains gas under pressure; may explode if heated

### Hazardous Statements - Health

H315 - Causes skin irritation.

H350 - May cause cancer.

### Precautionary Statements - General

P101 - If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P103 - Read label before use.

### Precautionary Statements - Prevention

P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P280 - Wear protective gloves, protective clothing, eye protection and face protection.

P264 - Wash hands thoroughly after handling.

### Precautionary Statements - Response

P308 + P313 - IF exposed or concerned: Get medical attention.  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.  
P332 + P313 - If skin irritation occurs: Get medical attention.  
P362 + P364 - Take off contaminated clothing and wash it before reuse.

#### Precautionary Statements - Storage

P410 + P403 - Protect from sunlight. Store in a well-ventilated place.  
P405 - Store locked up.

#### Precautionary Statements - Disposal

P501 - Dispose of contents and container in accordance with local, regional, national and international regulations.

### SECTION 3) COMPOSITION, INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
0000127-18-4	TETRACHLOROETHYLENE	52% - 85%
0061789-86-4	CALCIUM PETROLEUM SULFONATE	4% - 9%
0000111-76-2	ETHYLENE GLYCOL MONOBUTYL ETHER	4% - 8%
0008002-05-9	CRUDE OIL	3% - 6%
0000124-38-9	Carbon Dioxide	2% - 4%
0000056-23-5	Carbon Tetrachloride	0.1% - 1.4%

Specific chemical identity and/or exact percentage (concentration) of the composition has been withheld to protect confidentiality.

### SECTION 4) FIRST-AID MEASURES

#### Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
If exposed/feel unwell/concerned: Call a POISON CENTER or doctor.  
Eliminate all ignition sources if safe to do so.

#### Eye Contact

Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists: Get medical advice/attention.

#### Skin Contact

Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash with plenty of lukewarm, gently flowing water for a duration of 15-20 minutes. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.  
IF exposed or concerned: Get medical advice/attention.

#### Ingestion

Immediately call a POISON CENTER or doctor. Do NOT induce vomiting. If vomiting occurs naturally, lie on your side, in the recovery position.

#### Most Important Symptoms/Effects, Acute and Delayed

No data available.

#### Indication of Immediate Medical Attention and Special Treatment Needed

No data available.

### SECTION 5) FIRE-FIGHTING MEASURES

#### Suitable Extinguishing Media

Dry chemical, foam, carbon dioxide. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Sand or earth may be used for small fires only.

Do not direct a solid stream of water or foam into hot, burning pools. This may result in frothing and increased fire intensity.

#### Unsuitable Extinguishing Media

No data available.

### Specific Hazards in Case of Fire

Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Product is highly flammable and forms explosive mixtures with air, oxygen, and all oxidizing agents. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back.

During a fire, irritating and highly toxic gases may be generated during combustion or decomposition. High temperatures can cause sealed containers to rupture due to a build up of internal pressures. Cool with water.

Empty Containers retain product residue which may exhibit hazards of material; therefore do not pressurize, cut, glaze, weld or use for any other purposes.

Container could potentially burst or be punctured upon mechanical impact, releasing flammable vapors.

### Fire-Fighting Procedures

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Water may be ineffective but can be used to cool containers exposed to heat or flame. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid.

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

### Special Protective Actions

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

## SECTION 6) ACCIDENTAL RELEASE MEASURES

### Emergency Procedure

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Do not touch or walk through spilled material.

Isolate hazard area and keep unnecessary people away. Remove all possible sources of ignition in the surrounding area. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

If spilled material is cleaned up using a regulated solvent, the resulting waste mixture may be regulated.

### Recommended Equipment

Wear liquid tight chemical protective clothing in combination with positive pressure self-contained breathing apparatus (SCBA).

### Personal Precautions

Avoid breathing vapor. Avoid contact with skin, eye or clothing. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

### Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

### Methods and Materials for Containment and Cleaning up

Absorb liquids in vermiculite, dry sand, earth, or similar inert material and deposit in sealed containers for disposal.

## SECTION 7) HANDLING AND STORAGE

### General

Do not puncture or incinerate (burn) cans. Do not stick pins, nails, or any other sharp objects into opening on top of can. Do not spray in eyes. Do not take internally.

### Ventilation Requirements

Use in a well-ventilated place.

### Storage Room Requirements

Store and use in a cool, dry, well-ventilated area. Do not store above 120°F. See product label for additional information.

## SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

### Eye Protection

Wear safety glasses with side shields. Eyewash stations and showers should be available in areas where this material is used and stored.

### Skin Protection

Use solvent-resistant protective gloves for prolonged or repeated contact.

### Respiratory Protection

In restricted areas, use approved chemical/mechanical filters designed to remove a combination of particles and vapor. In confined areas,

use an approved air line respirator or hood. A self-contained breathing apparatus is required for vapor concentrations above PEL/TLV limits.

### Appropriate Engineering Controls

Ventilation should be sufficient to prevent inhalation of any vapors.

Chemical Name	OSHA TWA (mg/m3)	OSHA TWA (ppm)	OSHA STEL (mg/m3)	OSHA STEL (ppm)	OSHA Carcinogen	OSHA Skin designation	OSHA Tables (Z1, Z2, Z3)	ACGIH TWA (mg/m3)
CALCIUM PETROLEUM SULFONATE	2000	500					1	
Carbon Tetrachloride		10 (a) / 25ceiling		200ppm /5min. in any 3 hrs.			1	
Carbon Dioxide	9000	5000					1	
ETHYLENE GLYCOL MONOBUTYL ETHER	240	50				1	1	
TETRACHLOR OETHYLENE		100 (a)/ 200 ceiling		300ppm /5 mins. in any 3 hrs.(a)			1,2	

Chemical Name	ACGIH TWA (ppm)	ACGIH STEL (mg/m3)	ACGIH STEL (ppm)	ACGIH Carcinogen	ACGIH TLV Basis	ACGIH Notations	NIOSH TWA (mg/m3)	NIOSH TWA (ppm)
CALCIUM PETROLEUM SULFONATE								
Carbon Tetrachloride	5		10	A2	Liver dam	Skin; A2		
Carbon Dioxide	5000		30000		Asphyxia		9000	5000
ETHYLENE GLYCOL MONOBUTYL ETHER	20			A3	Eye & URT irr	A3; BEI	24	5
TETRACHLOR OETHYLENE	25		100	A3	CNS impair	A3; BEI		b

Chemical Name	NIOSH STEL (mg/m3)	NIOSH STEL (ppm)	NIOSH Carcinogen
CALCIUM PETROLEUM SULFONATE			
Carbon Tetrachloride	12.6b	2b	1
Carbon Dioxide	54000	30000	
ETHYLENE GLYCOL MONOBUTYL ETHER			
TETRACHLOR OETHYLENE			1

(C) - Ceiling limit, A2 - Suspected Human Carcinogen, A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans, BEI - Substances for which there is a Biological Exposure Index or Indices, CNS - Central nervous system, dam - Damage, impair - Impairment, irr - Irritation, URT - Upper respiratory tract

## SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

Density	11.72
Density VOC	0.74
% VOC	6.27%

Appearance  
Odor Description

Brown liquid  
Petroleum

## SECTION 10) STABILITY AND REACTIVITY

### Stability

Stable under normal storage and handling conditions.

### Conditions to Avoid

Avoid heat, sparks, flame, high temperature and contact with incompatible materials.  
Dropping containers may cause bursting.

### Incompatible Materials

Avoid strong oxidizers, reducers, acids, and alkalis.

### Hazardous Reactions/Polymerization

Will not occur.

### Hazardous Decomposition Products

No data available.

## SECTION 11) TOXICOLOGICAL INFORMATION

### Skin Corrosion/Irritation

Causes skin irritation

### Likely Route of Exposure

Inhalation, ingestion, skin absorption.

### Serious Eye Damage/Irritation

No data available.

### Carcinogenicity

May cause cancer.

### Germ Cell Mutagenicity

No data available.

### Reproductive Toxicity

No data available.

### Respiratory/Skin Sensitization

No data available.

### Specific Target Organ Toxicity - Single Exposure

No data available.

### Specific Target Organ Toxicity - Repeated Exposure

No data available.

### Aspiration Hazard

No data available.

### Acute Toxicity

0000127-18-4 TETRACHLOROETHYLENE

LC50 (rat): Approximately 3786 ppm (4-hour exposure) (22); approximately 4000 ppm (4-hour exposure) (23)

LC50 (mouse): 5200 ppm (4-hour exposure) (24)

LD50 (oral, rat): Approximately 2600 mg/kg (cited as 1.6 mL/kg) (20)

LD50 (oral, male rat): 3835 mg/kg (25)

LD50 (oral, female rat): 3005 mg/kg (25)

LD50 (dermal, rabbit): Greater than 3245 mg/kg (0/5 animals died) (2)

0000111-76-2 ETHYLENE GLYCOL MONOBUTYL ETHER

LC50 (female rat): 450 ppm (4-hour exposure) (2)

LC50 (male rat): 486 ppm (4-hour exposure) (2)

LD50 (oral, male weanling rat): 3000 mg/kg (1)

LD50 (oral, 6-week old male rat): 2400 mg/kg (1)

LD50 (oral, yearling male rat): 560 mg/kg (1)  
 LD50 (oral, female rat): 530 mg/kg; 2500 mg/kg (1) LD50 (oral, male mouse): 1230 mg/kg (1)  
 LD50 (oral, rabbit): 320 mg/kg (1)  
 LD50 (dermal, male rabbit): 406 mg/kg (cited as 0.45 mL/kg) (1)

**Potential Health Effects - Miscellaneous**

0000111-76-2 ETHYLENE GLYCOL MONOBUTYL ETHER

Can be absorbed through the skin in harmful amounts. May cause injury to the kidneys, liver, blood and/or bone marrow. Repeated overexposure may result in damage to the blood. Eye contact may cause corneal injury. Has been toxic to the fetus in laboratory animals at doses that are toxic to the mother.

**SECTION 12) ECOLOGICAL INFORMATION**

**Toxicity**

No data available.

**Persistence and Degradability**

No data available.

**Bio-Accumulative Potential**

No data available.

**Mobility in Soil**

No data available.

**Other Adverse Effects**

No data available.

**SECTION 13) DISPOSAL CONSIDERATIONS**

**Waste Disposal**

Under RCRA, it is the responsibility of the user of the product, to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state, and local laws. Empty containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

**SECTION 14) Transport Information**

	<b>IATA Information</b>	<b>IMDG Information</b>	<b>U.S. DOT Information</b>
<b>UN number:</b>	UN1950	UN1950	UN1950
<b>Proper shipping name:</b>	Aerosols, non-flammable	Aerosols	Aerosols
<b>Hazard class:</b>	2.2	2.2	2.2
<b>Packaging group:</b>	N.A.	N.A.	N.A.
<b>Note:</b>	(LTD QTY)	(LTD QTY)	(LTD QTY)

## SECTION 15) REGULATORY INFORMATION

CAS	Chemical Name	% By Weight	Regulation List
0000127-18-4	TETRACHLOROETHYLENE	52% - 85%	SARA313, CERCLA, HAPS, SARA312, VHAPS, VOC exempt, TSCA, RCRA, ACGIH, California Proposition 65 Cancer, OSHA
0061789-86-4	CALCIUM PETROLEUM SULFONATE	4% - 9%	SARA312, TSCA, OSHA
0000111-76-2	ETHYLENE GLYCOL MONOBUTYL ETHER	4% - 8%	SARA313, CERCLA, SARA312, VOC, TSCA, ACGIH, OSHA
0008002-05-9	CRUDE OIL	3% - 6%	SARA312, VOC, OSHA
0000124-38-9	Carbon Dioxide	2% - 4%	SARA312, TSCA, ACGIH, OSHA
0000056-23-5	Carbon Tetrachloride	0.1% - 1.4%	SARA313, CERCLA, HAPS, SARA312, VHAPS, TSCA, RCRA, ACGIH, California Proposition 65 Cancer, OSHA

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## SECTION 16) OTHER INFORMATION

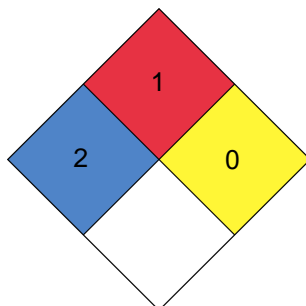
### Glossary

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDG- Canadian Transportation of Dangerous Goods; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center (US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL- Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self-Contained Breathing Apparatus; STEL- Short Term Exposure Limit; TCEQ- Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA- Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

#### HMIS

Health	/ 2
FLAMMABILITY	1
Physical Hazard	0
Personal Protection	B

#### NFPA



(\* ) - Chronic effects

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

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