

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name UNISOL PLUS
Recommended Use Solvent degreaser
Information on Manufacturer
 CHEMSEARCH DIV. OF NCH CORP.
 BOX 152170
 IRVING, TX 75015

Product Code 0936
Chemical Nature Solvent mixture
Emergency Telephone Number
 CHEMTREC® 800-424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview
 WARNING
 Harmful if inhaled
 Severe skin irritation
 Severe eye irritation
 May be harmful if swallowed

Color Colorless

Physical State Liquid

Odor Ether-like

Potential Health Effects

Principle Route of Exposure

Inhalation, Skin contact, Eye contact.

Primary Routes of Entry

Inhalation, Skin Absorption.

Acute Effects

Eyes

Severe eye irritant.

Skin

Severe skin irritant. May be absorbed through the skin in harmful amounts.

Inhalation

Irritating to mucous membranes. Inhalation may cause central nervous system effects. May cause central nervous system depression. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Irregular cardiac activity. May cause cardiac arrhythmia.

Ingestion

Ingestion may cause irritation to mucous membranes. May cause central nervous system effects such as headache, dizziness, weakness, staggering gait, nausea, blurred vision, excitation, and in extreme cases, coma or death. Aspiration hazard if swallowed - can enter lungs and cause damage. May be fatal if swallowed and enters airways.

Chronic Toxicity

Liver and kidney injuries may occur. Prolonged skin contact may defat the skin and produce dermatitis. Contains a known or suspected carcinogen. May cause irregular heartbeats, especially under conditions of stress.

Target Organ Effects

Central nervous system, Respiratory system, Cardiovascular system, Skin, Eyes, Kidney, Liver, Blood.

Aggravated Medical Conditions

Central nervous system, Kidney disorders, Liver disorders, Respiratory disorders, Skin disorders, Blood disorders.

Potential Environmental Effects

See Section 12 for additional Ecological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No
Tetrachloroethylene	127-18-4
Carbon tetrachloride	56-23-5
Methylene chloride	75-09-2
Propylene oxide	75-56-9

4. FIRST AID MEASURES

General Advice

Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing.

Eye Contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Get medical attention immediately.

Skin Contact

Remove immediately all contaminated clothing. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately.

Inhalation

Move to fresh air. In case of shortness of breath, give oxygen. If breathing has stopped, apply artificial respiration. Get medical attention immediately.

Ingestion

Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately. Never give anything by mouth to an unconscious person.

Notes to Physician

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point >201°F/>94°C

Method

Tag closed cup

Autoignition Temperature No information available.

Flammability Limits in Air % Mixture.

Upper 23

Lower 13

Suitable Extinguishing Media

Carbon dioxide (CO₂). Foam. Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards arising from the chemical

Material can create slippery conditions. Solvent vapors are heavier than air and may spread along floors. Vapors may ignite and explode.

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.

NFPA

Health 2

Flammability 1

Instability 0

HMIS

Health 2

Flammability 1

Instability 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Use personal protective equipment. Ensure adequate ventilation. Prevent further leakage or spillage if safe to do so. Material can create slippery conditions.

Environmental Precautions

Do not flush into surface water or sanitary sewer system.

Methods for Containment

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

Methods for Cleaning Up

Use clean non-sparking tools to collect absorbed material. Pick up and transfer to properly labelled containers.

Neutralizing Agent

Not applicable.

7. HANDLING AND STORAGE

Handling Wear personal protective equipment. Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing.
Storage Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.
Storage Temperature **Minimum** 35°F/2°C **Maximum** 120°F/49°C
Storage Conditions **Indoor** X **Outdoor** **Heated** **Refrigerated**

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH
Tetrachloroethylene	100 ppm STEL : 25 ppm TWA	100 ppm TWA : 200 ppm Ceiling	150 ppm IDLH
Carbon tetrachloride	Skin : 10 ppm STEL : 5 ppm TWA	10 ppm TWA : 25 ppm Ceiling	200 ppm IDLH 2 ppm STEL (60 min); 12.6 mg/m ³ STEL (60 min)
Methylene chloride	50 ppm TWA	25 ppm TWA : 125 ppm STEL (see 29 CFR 1910.1052)	2300 ppm IDLH
Propylene oxide	2 ppm TWA	100 ppm TWA; 240 mg/m ³ TWA	400 ppm IDLH

Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/Face Protection

Tightly fitting safety goggles.

Skin Protection

Wear suitable protective clothing. Impervious gloves.

Respiratory Protection

In case of inadequate ventilation wear respiratory protection. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

General Hygiene Considerations

Ensure that eyewash stations and safety showers are close to the workstation location. Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid	Viscosity	Non viscous
Color	Colorless	Odor	Ether-like
Appearance	Transparent	pH	Not applicable
Specific Gravity	1.58	Evaporation Rate	5.2 (Butyl acetate=1)
Percent Volatile (Volume)	100	VOC Content (%)	0.6
VOC Content (g/L)	9.6	Vapor Pressure	63.8 mmHg @ 70 °F
Vapor Density	3.2 (Air = 1.0)	Solubility	Negligible
Boiling Point/Range	208°F/98°C		

10. STABILITY AND REACTIVITY

Chemical Stability

Stable. Hazardous polymerization does not occur.

Conditions to Avoid

Heating can release hazardous gases

Incompatible Products

Strong oxidizing agents, Acids, Bases.

Hazardous Decomposition Products

Carbon oxides, Hydrogen chloride gas, Chlorine, Phosgene.

Possibility of Hazardous Reactions

None under normal processing.

11. TOXICOLOGICAL INFORMATION

Product Information

No information available.

Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
Tetrachloroethylene	2629 mg/kg (Rat)	no data available	4000 ppm (Rat) 4 h	no data available	no data available
Carbon tetrachloride	2350 mg/kg (Rat)	5070 mg/kg (Rat)	8000 ppm (Rat) 4 h	no data available	no data available
Methylene chloride	2000 mg/kg (Rat)	no data available	76000 mg/m ³ (Rat) 4 h	no data available	no data available
Propylene oxide	520 mg/kg (Rat)	no data available	no data available	no data available	no data available

Chronic Toxicity

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
Tetrachloroethylene	no data available	no data available	no data available	no data available	liver, kidneys, eyes, CNS, respiratory system, skin (in animals: liver tumors)
Carbon tetrachloride	no data available	no data available	no data available	no data available	CNS, eyes, lungs, liver, kidneys, skin (in animals: liver cancer)
Methylene chloride	no data available	no data available	no data available	no data available	skin, CVS, eyes, CNS (in animals: lung, liver, salivary and mammary gland tumors), blood
Propylene oxide	no data available	no data available	no data available	no data available	eyes, respiratory system, skin (in animals: nasal tumors)

Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Other
Tetrachloroethylene	A3	Group 2A	Reasonably Anticipated	X	not applicable
Carbon tetrachloride	A2	Group 2B	Reasonably Anticipated	X	not applicable
Methylene chloride	A3	Group 2B	Reasonably Anticipated	X	not applicable
Propylene oxide	A3	Group 2B	Reasonably Anticipated	X	not applicable

12. ECOLOGICAL INFORMATION

Product Information

No information available.

Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
Tetrachloroethylene	EC50> 500 mg/L Pseudokirchneriella subcapitata 96 h	LC50 11.0-15.0 mg/L Lepomis macrochirus 96 h LC50 12.4-14.4 mg/L Pimephales promelas 96 h LC50 4.73-5.27 mg/L Oncorhynchus mykiss 96 h LC50 8.6-13.5 mg/L Pimephales promelas 96 h	EC50 = 100 mg/L 24 h EC50 = 112 mg/L 24 h EC50 = 120.0 mg/L 30 min	EC50 6.1 - 9.0 mg/L 48 h	2.53 - 2.88 at 20 °C
Carbon tetrachloride	EC50= 830 mg/L Tetrahymena pyriformis 24 h	LC50 23-33 mg/L Lepomis macrochirus 96 h LC50 36.3-47.3 mg/L Pimephales promelas 96 h LC50 9.68-11.3 mg/L Pimephales promelas 96 h	EC50 = 34 mg/L 10 min EC50 = 5.6 mg/L 5 min	EC50 = 28 mg/L 24 h EC50 = 29 mg/L 48 h	2.75 at 23 °C
Methylene chloride	EC50> 500 mg/L Pseudokirchneriella subcapitata 72 h EC50> 500 mg/L Pseudokirchneriella subcapitata 96 h	LC50 140.8-277.8 mg/L Pimephales promelas 96 h LC50 262-855 mg/L Pimephales promelas 96 h LC50= 193 mg/L Lepomis macrochirus 96 h	EC50 = 1 mg/L 24 h EC50 = 2.88 mg/L 15 min	EC50 1532 - 1847 mg/L 48 h EC50 = 190 mg/L 48 h	1.25
Propylene oxide	EC50= 240 mg/L Pseudokirchneriella subcapitata 96 h	LC50= 215 mg/L Lepomis macrochirus 96 h	EC50 = 3300 mg/L 160 min	EC50 = 350 mg/L 48 h	0.08

Persistence and Degradability No information available.
Bioaccumulation No information available.
Mobility No information available.

13. DISPOSAL CONSIDERATIONS

Product Disposal Dispose of in accordance with local regulations.
Container Disposal Empty containers should be taken for local recycling, recovery, or waste disposal.

14. TRANSPORT INFORMATION**DOT**

Proper Shipping Name Toxic liquids, organic, n.o.s.
Hazard Class 6.1
UN-No UN2810
Packing Group III
Reportable Quantity (RQ) Tetrachloroethylene, RQ kg = 53.65
Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to DOT.
Description RQ, UN2810, TOXIC, LIQUID, ORGANIC, N.O.S., (DICHLOROMETHANE, TETRACHLOROETHYLENE), MARINE POLLUTANT

TDG

Proper shipping name TOXIC LIQUID, ORGANIC, N.O.S.,
Hazard Class 6.1
UN-No UN2810
Packing Group III
Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to TDG.
Description RQ, UN2810, TOXIC, LIQUID, ORGANIC, N.O.S., (DICHLOROMETHANE, TETRACHLOROETHYLENE), MARINE POLLUTANT

ICAO**IATA****IMDG/IMO**

Proper Shipping Name TOXIC, LIQUID, ORGANIC, N.O.S.,
Hazard Class 6.1
UN-No UN2810
Packing Group III
Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO
Shipping Description RQ, UN2810, TOXIC, LIQUID, ORGANIC, N.O.S., (DICHLOROMETHANE, TETRACHLOROETHYLENE), MARINE POLLUTANT

15. REGULATORY INFORMATION**Inventories**

TSCA Complies
DSL Complies

U.S. Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40n of the Code of Federal Regulations, Part 372

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Tetrachloroethylene	127-18-4	60-100	0.1 % de minimis concentration
Carbon tetrachloride	56-23-5	0.1-1	0.1 % de minimis concentration
Methylene chloride	75-09-2	10-30	0.1 % de minimis concentration
Propylene oxide	75-56-9	0.1-1	0.1 % de minimis concentration

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	Yes	No	No	No

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
Tetrachloroethylene	Not applicable	Not applicable
Carbon tetrachloride	Not applicable	Not applicable
Methylene chloride	Not applicable	Not applicable
Propylene oxide	Not applicable	10000 lb TPQ 100 lb EPCRA RQ

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

D1B Toxic materials, D2A Very toxic materials, D2B Toxic materials.

**16. OTHER INFORMATION**

Prepared By	Anita Stelly
Supersedes Date	08/31/2007
Issuing Date	08/09/2010
Reason for Revision	No information available.
Glossary	No information available.
List of References.	No information available.

CHEMSEARCH DIV. OF NCH CORP. assumes no responsibility for personal injury or property damage caused by the use, storage, or disposal of the product in a manner not recommended on the product label. Users assume all risks associated with such unrecommended use, storage or disposal of the product. The information provided on this MSDS 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.