

# Material Safety Data Sheet: SAF-SOL 20/20 AEROSOL

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## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** SAF-SOL 20/20 AEROSOL  
**Recommended use** Solvent mixture  
**Information on Manufacturer**  
CERTIFIED LABS, DIV. OF NCH CORP.  
BOX 152170  
IRVING, TEXAS 75015

**Product Code** 5606  
**Chemical nature** Halogenated hydrocarbon  
**Emergency Telephone Number**  
CHEMTREC® 800-424-9300

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

DANGER

Harmful if inhaled  
Severe skin irritation  
Causes severe eye irritation  
Harmful or fatal if swallowed  
Contents under pressure

**Color** Colorless

**Potential Health Effects**

**Principle Route of Exposure**

**Primary Routes of Entry**

**Acute Effects**

Eyes

Skin

Inhalation

Ingestion

**Chronic Toxicity**

**Target Organ Effects**

**Aggravated Medical Conditions**

**Potential Environmental Effects**

**Physical State** Liquid

**Odor** Ether-like

Skin contact, Eye contact, Inhalation.

Inhalation, Skin Absorption.

Severe irritation.

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

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. Inhalation of vapors in high concentration can cause narcotic effects and metabolic acidosis.

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.

Prolonged or repeated inhalation may cause damage to the lungs. Prolonged skin contact may defat the skin and produce dermatitis. Liver and kidney injuries may occur. Contains a known or suspected carcinogen.

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

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

See Section 12 for additional Ecological information.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No
Tetrachloroethylene	127-18-4
Methylene chloride	75-09-2
Carbon dioxide	124-38-9
Propylene oxide	75-56-9
Carbon tetrachloride	56-23-5

## 4. FIRST AID MEASURES

**General advice**

**Eye Contact**

**Skin Contact**

**Inhalation**

**Ingestion**

**Notes to physician**

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

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

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

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

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

Aspiration hazard if swallowed - can enter lungs and cause damage. May be fatal if swallowed and enters airways. May cause cardiac arrhythmia. Acidosis.

**5. FIRE-FIGHTING MEASURES**

<b>Flash Point</b>	> 201 °F / > 94 °C	<b>Method</b>	Seta closed cup
<b>Autoignition Temperature</b>	No information available.		
<b>Flammability Limits in Air % Solvent mixture.</b>		<b>Upper 23</b>	<b>Lower 13</b>
<b>Suitable Extinguishing Media</b>			
Water spray. Carbon dioxide (CO2). Foam. Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.			
<b>Specific hazards arising from the chemical</b>			
Solvent vapors are heavier than air and may spread along floors. Vapors may ignite and explode. Material can create slippery conditions. Flame extension: 0 inches / 0 cm and Burnback: 0 inch / 0 cm.			
<b>Protective Equipment and Precautions for Firefighters</b>			
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.			
<b>Aerosol Level (NFPA 30B) -</b>		1	
<b>NFPA</b>	<b>Health 2</b>	<b>Flammability 1</b>	<b>Instability 0</b>
<b>HMIS</b>	<b>Health 2</b>	<b>Flammability 1</b>	<b>Instability 0</b>

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal Precautions</b>	Ensure adequate ventilation. Use personal protective equipment.
<b>Environmental Precautions</b>	Prevent product from contaminating soil or from entering sewage, drainage systems, and bodies of water. Do not flush into surface water or sanitary sewer system.
<b>Methods for Containment</b>	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)
<b>Methods for Cleaning Up</b>	Pick up and transfer to properly labeled containers
<b>Neutralizing Agent</b>	Not applicable.

**7. HANDLING AND STORAGE**

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

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH
Tetrachloroethylene	TWA: 25 ppm STEL: 100 ppm	TWA: 100 ppm Ceiling: 200 ppm	IDLH: 150 ppm
Methylene chloride	TWA: 50 ppm	TWA: 25 ppm STEL: 125 ppm	IDLH: 2300 ppm
Carbon dioxide	TWA: 5000 ppm STEL: 30000 ppm	TWA: 5000 ppm TWA: 9000 mg/m <sup>3</sup>	IDLH: 40000 ppm STEL 30000 ppm STEL 54000 mg/m <sup>3</sup> TWA: 5000 ppm TWA: 9000 mg/m <sup>3</sup>
Propylene oxide	TWA: 2 ppm	TWA: 100 ppm TWA: 240 mg/m <sup>3</sup>	IDLH: 400 ppm
Carbon tetrachloride	TWA: 5 ppm Skin STEL: 10 ppm	TWA: 10 ppm Ceiling: 25 ppm	IDLH: 200 ppm STEL 2 ppm STEL 12.6 mg/m <sup>3</sup>

<b>Engineering Measures</b>	Use with local exhaust ventilation. Ensure adequate ventilation, especially in confined areas.
<b>Personal Protective Equipment</b>	
<b>Eye/Face Protection</b>	Tightly fitting safety goggles.
<b>Skin Protection</b>	Wear suitable protective clothing, Impervious gloves.
<b>Respiratory Protection</b>	In case of inadequate ventilation wear respiratory protection. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
<b>General Hygiene Considerations</b>	Remove and wash contaminated clothing before re-use.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State</b>	Liquid	<b>Viscosity</b>	Non viscous
<b>Color</b>	Colorless	<b>Odor</b>	Ether-like
<b>Appearance</b>	Transparent	<b>pH</b>	Not applicable
<b>Specific Gravity</b>	1.55	<b>Bulk Density (lb/cu ft)</b>	5.17
<b>Evaporation Rate</b>	95.2 (Butyl acetate=1)	<b>Percent Volatile (Volume)</b>	100
<b>VOC Content (%)</b>	0	<b>VOC Content (g/L)</b>	0



Vapor Pressure  
Solubility

3931.25 mmHg @ 70°F  
Negligible

Vapor Density  
Boiling Point/Range

1.6 (Air = 1.0)  
> 154 °F / 68 °C

## 10. STABILITY AND REACTIVITY

Chemical Stability  
Conditions to Avoid  
Incompatible Products

Hazardous Decomposition Products

Possibility of Hazardous Reactions

Stable. Hazardous polymerization does not occur.  
Keep away from open flames, hot surfaces, and sources of ignition  
Strong oxidizing agents, Strong bases, Powdered metals, Reducing agents, Amines.  
Carbon oxides, Nitrogen oxides (NOx), Hydrogen chloride gas, Chlorine gas.  
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
Methylene chloride	> 2000 mg/kg ( Rat )	no data available	no data available	no data available	no data available
Carbon dioxide	no data available	no data available	no data available	no data available	no data available
Propylene oxide	= 520 mg/kg ( Rat )	no data available	= 4000 ppm ( Rat ) 4 h	no data available	no data available
Carbon tetrachloride	no data available	no data available	= 8000 ppm ( Rat ) 4 h	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, central nervous system, respiratory system, skin, cardiovascular system
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)
Carbon dioxide	no data available	no data available	no data available	no data available	respiratory system, CVS
Propylene oxide	no data available	skin sensitization	no data available	no data available	eyes, respiratory system, skin (in animals: nasal tumors), CNS, immune system
Carbon tetrachloride	no data available	no data available	no data available	no data available	CNS, eyes, lungs, liver, kidney

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	ACGIH	IARC	NTP	OSHA	Other
Tetrachloroethylene	A3	Group 2A	Reasonably Anticipated	X	not applicable
Methylene chloride	A3	Group 2B	Reasonably Anticipated	X	not applicable
Carbon dioxide	not applicable	not applicable	not applicable	not applicable	not applicable
Propylene oxide	A3	Group 2B	Reasonably Anticipated	X	not applicable
Carbon tetrachloride	A2	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 12.4 - 14.4 mg/L Pimephales promelas 96 h LC50 8.6 - 13.5 mg/L Pimephales promelas 96 h LC50 11.0 - 15.0 mg/L Lepomis macrochirus 96 h LC50 4.73 - 5.27 mg/L Oncorhynchus mykiss 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
Methylene chloride	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	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

	EC50 > 500 mg/L Pseudokirchneriella subcapitata 72 h	promelas 96 h LC50 = 193 mg/L Lepomis macrochirus 96 h			
Carbon dioxide	no data available	no data available	no data available	no data available	N/A
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
Carbon tetrachloride	EC50 = 830 mg/L Tetrahymena pyriformis 24 h	LC50 36.3 - 47.3 mg/L Pimephales promelas 96 h LC50 9.68 - 11.3 mg/L Pimephales promelas 96 h LC50 23 - 33 mg/L Lepomis macrochirus 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

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available.

**Mobility**

No information available.

**13. DISPOSAL CONSIDERATIONS****Product Disposal**

Dispose of as hazardous waste in compliance with local and national regulations.

**Container Disposal**

Warning! Container under pressure. Do not puncture. Empty remaining contents. Do not re-use empty containers. Empty containers should be taken for local recycling, recovery, or waste disposal.

**14. TRANSPORT INFORMATION****DOT**

**Proper Shipping Name**  
**Hazard Class**  
**Description**

Consumer Commodity  
ORM-D  
Consumer Commodity, ORM-D

**TDG**

**Proper shipping name**  
**Hazard Class**  
**UN-No**  
**Description**

Aerosols, non-flammable  
2.2  
UN1950  
UN1950, Aerosols, non-flammable, 2.2, LTD QTY

**ICAO**

**UN-No**  
**Proper Shipping Name**  
**Hazard Class**  
**Shipping Description**

UN1950  
Aerosols, non-flammable  
2.2  
UN1950, Aerosols, non-flammable, 2.2, LTD QTY

**IATA**

**UN-No**  
**Proper Shipping Name**  
**Hazard Class**  
**ERG Code**  
**Shipping Description**

UN1950  
Aerosols, non-flammable  
2.2  
2L  
UN1950, Aerosols, non-flammable, 2.2, LTD QTY

**IMDG/IMO**

**Proper Shipping Name**  
**Hazard Class**  
**UN-No**  
**EmS No.**  
**Shipping Description**

Aerosols, non-flammable  
2.2  
UN1950  
F-D, S-U  
UN1950, Aerosols, non-flammable, 2.2, LTD QTY

**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 40 of the Code of Federal Regulations, Part 372

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Tetrachloroethylene	127-18-4	30-60	0.1

Methylene chloride	75-09-2	15-40	0.1
Propylene oxide	75-56-9	0.1-1	0.1
Carbon tetrachloride	56-23-5	0.1-1	0.1

**SARA 311/312 Hazardous Categorization**

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

**CERCLA**

Component	Hazardous Substances RQs	CERCLA EHS RQs
Tetrachloroethylene	100 lb	Not applicable
Methylene chloride	1000 lb	Not applicable
Carbon dioxide	Not applicable	Not applicable
Propylene oxide	100 lb	10000 lb TPQ 100 lb
Carbon tetrachloride	10 lb	Not applicable

**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**

A Compressed gases D1B Toxic materials D2A Very toxic materials D2B Toxic materials

**16. OTHER INFORMATION**

Prepared By Rachael Mohochi  
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 Reason for Revision No information available.  
 Glossary No information available.  
 List of References. No information available.

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