Harrell Industries, Inc.

SAFETY DATA SHEET

Issue Date 20-Apr-2015 **Revision Date** 30-Sep-2015 **Version** 3

1. IDENTIFICATION

Product identifier

Product Name 1,1,2,2-Tetrachloroethane

Other means of identification

Product Code 7900
UN/ID no. UN1702
Synonyms Ethane, 1,1,2,2-tetrachloro-; s-tetrachloroethane; acetylene tetrachloride

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory chemicals.
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address
Harrell Industries, Inc.
2495 Commerce Drive
Rock Hill, SC 29730

www.harrellindustries.com

Emergency telephone number

Company Phone Number 803-327-6335
Fax Number 803-327-7808
24 Hour Emergency Phone Number 800 633-8253 (PERS)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 1
Acute toxicity - Inhalation (Dusts/Mists)	Category 2
Carcinogenicity	Category 1B

Label elements

Emergency Overview

Danger

Hazard statements
Toxic if swallowed
Fatal in contact with skin
Fatal if inhaled
May cause cancer

DANGER! MAY BE FATAL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. AFFECTS LIVER, KIDNEYS, CENTRAL NERVOUS SYSTEM AND GASTROINTESTINAL TRACT. CAUSES SEVERE EYE IRRITATION. CAUSES IRRITATION TO SKIN AND RESPIRATORY TRACT.

Appearance Clear, colorless liquid **Physical state** liquid **Odor** Sweet, characteristic

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not get in eyes, on skin, or on clothing
Do not breathe dust
Use only outdoors or in a well-ventilated area
Wear respiratory protection

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
Causes irritation, redness, and pain. Contact may cause permanent eye damage.
Causes irritation to skin. Symptoms include redness, itching and pain.
Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. Overexposure may cause dizziness, headache, nausea and possible fluid in the lungs. May cause liver, kidney or lung injury.
Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. May cause sore throat and abdominal pain. May cause liver or kidney injury.

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
Toxic to aquatic life with long lasting effects

Unknown acute toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Synonyms Ethane, 1,1,2,2-tetrachloro-; s-tetrachloroethane; acetylene tetrachloride.
Formula C2H2Cl4

Chemical Name	CAS No.	Weight-%
1,1,2,2-Tetrachloroethane	79-34-5	100

4. FIRST AID MEASURES

Description of first aid measures

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician if irritation occurs.

Skin contact Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Inhalation Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion Wash out mouth with water given the person is conscious. Never give anything by mouth to an unconscious person. Get medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms Chronic Exposure: Repeated or high exposures may cause kidney or liver damage; may affect the lungs. Repeated skin exposure can cause dryness, cracking of skin and rash.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Dry chemical, CO2 or water spray. Foam.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
Emits toxic fumes under fire conditions.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

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. Water spray may be used to keep fire exposed containers cool. Water may be used to flush spills away from exposures and to dilute spills to non-flammable mixtures.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal equipment.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb and place into an chemical waste container.

Methods for cleaning up Absorb with inert materials (e.g., vermiculite, dry sand, earth). Do not use combustible materials, such as saw dust. Do not flush to sewer!!.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Protect against physical damage. Store in tightly closed containers. Outside or detached storage is preferred. Inside storage should be in a standard flammable liquids storage room or cabinet. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Do not attempt to clean empty containers since residue is difficult to remove.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep in a dry, cool and well-ventilated place.

Incompatible materials Strong oxidizing agents. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
1,1,2,2-Tetrachloroethane 79-34-5	TWA: 1 ppm S*	TWA: 5 ppm TWA: 35 mg/m^3 (vacated) TWA: 1 ppm (vacated) TWA: 7 mg/m^3 (vacated) S* S*	IDLH: 100 ppm TWA: 1 ppm TWA: 7 mg/m^3

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Use chemical safety goggles and/or full face shield. Maintain eye wash fountain and quick-drench facilities in work area.

Skin and body protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid		
Appearance	Clear, colorless liquid	**Odor**	Sweet, characteristic
Color	clear colorless	**Odor threshold**	No information available

Property	Values	Remarks • Method
pH	No information available	
Melting point / freezing point	No information available	

Boiling point / boiling range	147 °C
Flash point	No information available
Evaporation rate	0.65
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	8@20C
Vapor density	5.8
Relative density	1.598
Water solubility	Slight, 0.3 g/100g water @ 25°C (77°F)
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening point	No information available
Molecular weight	67.85
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under ordinary conditions of use and storage.
Possibility of Hazardous Reactions
None under normal processing.
Hazardous polymerization Will not occur.

Conditions to avoid
Incompatible materials.
Incompatible materials
Strong oxidizing agents. Strong bases.
Hazardous Decomposition Products
Carbon dioxide (CO2). Carbon monoxide. Hydrogen chloride.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation Harmful by inhalation.

Eye contact Severely irritating to eyes.

Skin contact Harmful if absorbed through the skin. Irritating to skin.

Ingestion Harmful if swallowed.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
1,1,2,2-Tetrachloroethane 79-34-5	= 250 mg/kg (Rat)	= 6400 mg/kg (Rabbit)	= 8.6 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity

Chemical Name	ACGIH	IARC	NTP	OSHA
1,1,2,2-Tetrachloroethane 79-34-5	A3	Group 2A Group 2B	-	X

Target Organ Effects liver, kidney, Nerves.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
1,1,2,2-Tetrachloroethane 79-34-5	40.7 - 344: 96 h Pseudokirchneriella subcapitata mg/L EC50 31.4 - 188: 72 h Pseudokirchneriella subcapitata mg/L EC50 47: 96 h Desmodesmus subspicatus mg/L EC50 static	19.9 - 20.7: 96 h Pimephales promelas mg/L LC50 flow-through 20 - 22: 96 h Lepomis macrochirus mg/L LC50 static	16 - 35: 48 h Daphnia magna mg/L EC50 16 - 35: 48 h Daphnia magna mg/L EC50 Static

Persistence and degradability

Bioaccumulation

Chemical Name	Partition coefficient
1,1,2,2-Tetrachloroethane 79-34-5	2.39

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility.

Contaminated packaging Do not reuse container.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
1,1,2,2-Tetrachloroethane 79-34-5	U209	Included in waste streams: F024, F025, F039, K019, K020, K030, K073, K095, K150	-	U209

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
1,1,2,2-Tetrachloroethane 79-34-5	Category I - Volatiles	-	Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from	-

			the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	

Chemical Name	California Hazardous Waste Status
1,1,2,2-Tetrachloroethane 79-34-5	Toxic

14. TRANSPORT INFORMATION

DOT Regulated
- **UN/ID no.** UN1702
- **Proper shipping name** 1,1,2,2-Tetrachloroethane
- **Hazard Class** 6.1
- **Packing Group** II
- **Reportable Quantity (RQ)** 100 lbs (45.4 kg)

TDG Regulated
- **UN/ID no.** UN1702
- **Proper shipping name** 1,1,2,2-Tetrachloroethane
- **Hazard Class** 6.1
- **Packing Group** II

MEX Regulated
- **UN/ID no.** UN1702
- **Proper shipping name** 1,1,2,2-Tetrachloroethane
- **Hazard Class** 6.1
- **Packing Group** II

ICAO (air) Regulated
- **UN/ID no.** UN1702
- **Proper shipping name** 1,1,2,2-Tetrachloroethane
- **Hazard Class** 6.1
- **Packing Group** II

IATA Regulated
- **UN/ID no.** UN1702
- **Proper shipping name** 1,1,2,2-Tetrachloroethane
- **Hazard Class** 6.1
- **Packing Group** II

IMDG Regulated
- **UN/ID no.** UN1702
- **Proper shipping name** 1,1,2,2-Tetrachloroethane
- **Hazard Class** 6.1
- **Packing Group** II

RID Regulated
- **UN/ID no.** UN1702
- **Proper shipping name** 1,1,2,2-Tetrachloroethane
- **Hazard Class** 6.1
- **Packing Group** II

ADR Regulated
- **UN/ID no.** UN1702
- **Proper shipping name** 1,1,2,2-Tetrachloroethane
- **Hazard Class** 6.1
- **Packing Group** II

ADN Regulated
- **UN Number** UN1702
- **Proper shipping name** 1,1,2,2-Tetrachloroethane

Hazard Class	6.1
Packing Group	II

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US 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

Chemical Name	SARA 313 - Threshold Values %
1,1,2,2-Tetrachloroethane - 79-34-5	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
1,1,2,2-Tetrachloroethane 79-34-5	-	X	X	-

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
1,1,2,2-Tetrachloroethane 79-34-5	100 lb 1 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
1,1,2,2-Tetrachloroethane - 79-34-5	Carcinogen

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
1,1,2,2-Tetrachloroethane 79-34-5	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 4	**Flammability** 0	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 4	**Flammability** 0	**Physical hazards** 0	**Personal protection** X

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Revision Note
No information available

Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet