



D-2046

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 06/15/2020

Supersedes: 09/20/2019

Version: 1.5

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : D-2046

1.2. Recommended use and restrictions on use

Recommended use : Washing and cleaning products (including solvent based products)
Restrictions on use : Washing and cleaning products (including solvent based products)

1.3. Supplier

Manufacturer

Zip-Chem Products
400 Jarvis Drive
Morgan Hill, CA 95037 - United States
T 408-782-2335 - F 408-782-6304
4info@zipchem.com

1.4. Emergency telephone number

Emergency number : 1-800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation Category 2	H315	Causes skin irritation	Calculation method
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation	Calculation method
Germ cell mutagenicity Category 2	H341	Suspected of causing genetic defects	Calculation method
Carcinogenicity Category 1A	H350	May cause cancer	Calculation method
Specific target organ toxicity (single exposure) Category 3	H336	May cause drowsiness or dizziness	Calculation method

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H315 - Causes skin irritation
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
H341 - Suspected of causing genetic defects
H350 - May cause cancer

Precautionary statements (GHS US) :

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing vapors.
P264 - Wash hands thoroughly after handling.

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P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves, eye protection, face protection.
P302+P352 - If on skin: Wash with plenty of water.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P312 - Call a POISON CENTER if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to a hazardous or special waste collection point.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
TRICHLOROETHYLENE	(CAS-No.) 79-01-6	80-100	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 2, H341 Carc. 1A, H350 STOT SE 3, H336

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : May cause drowsiness or dizziness.
Symptoms/effects after skin contact : Irritation.
Symptoms/effects after eye contact : Eye irritation.
Symptoms/effects after ingestion : May cause irritation to the digestive tract.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Avoid breathing dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.
Hygiene measures : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.
Storage area : Store in a well-ventilated place. Store away from heat.
Packaging materials : Keep only in the original container in a cool, well-ventilated place away from combustible materials.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

D-2046	
USA - ACGIH - Occupational Exposure Limits	
Local name	Trichloroethylene
ACGIH TWA (ppm)	10 ppm
ACGIH STEL (ppm)	25 ppm
Remark (ACGIH)	TLV® Basis: CNS impair; cognitive decrements; renal toxicity. Notations: A2 (Suspected Human Carcinogen); BEI
Regulatory reference	ACGIH 2020
USA - OSHA - Occupational Exposure Limits	
Local name	Trichloroethylene
OSHA PEL (TWA) (ppm)	100 ppm
OSHA PEL (Ceiling) (ppm)	200 ppm
Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift	300 ppm 5 mins. in any 2 hrs.
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-2

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TRICHLOROETHYLENE (79-01-6)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Trichloroethylene
ACGIH TWA (ppm)	10 ppm
ACGIH STEL (ppm)	25 ppm
Remark (ACGIH)	TLV® Basis: CNS impair; cognitive decrements; renal toxicity. Notations: A2 (Suspected Human Carcinogen); BEI
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Regulatory reference (US-OSHA)	OSHA Annotated Table Z-2

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Protective clothing. Safety glasses. Gloves.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Wear respiratory protection.

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Liquid
Color : Colorless
Odor : Barely perceptible odour
Odor threshold : No data available
pH : Not applicable.
Melting point : Not applicable
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Relative evaporation rate (butyl acetate=1) : Fast
Flammability (solid, gas) : Not applicable.

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Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 10.8lbs/gal
Specific gravity / density	: 1.46 g/ml
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

VOC content	: 1216
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SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

TRICHLOROETHYLENE (79-01-6)	
LD50 oral rat	5620 mg/kg body weight (Rat, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 20000 mg/kg body weight (24 h, Rabbit, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	68 mg/l (4 h, Rat, Male, Experimental value, Inhalation, 14 day(s))
ATE US (oral)	5620 mg/kg body weight
ATE US (vapors)	68 mg/l/4h
ATE US (dust, mist)	68 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation. Causes skin irritation pH: Not applicable.
Serious eye damage/irritation	: Causes serious eye irritation. Causes serious eye irritation pH: Not applicable.
Respiratory or skin sensitization	: Not classified May cause an allergic skin reaction
Germ cell mutagenicity	: Suspected of causing genetic defects.
Carcinogenicity	: May cause cancer.

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TRICHLOROETHYLENE (79-01-6)	
IARC group	1 - Carcinogenic to humans
National Toxicity Program (NTP) Status	Known Human Carcinogens

Reproductive toxicity : Not classified

STOT-single exposure : May cause drowsiness or dizziness.

TRICHLOROETHYLENE (79-01-6)	
STOT-single exposure	May cause drowsiness or dizziness.

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

Symptoms/effects : May cause drowsiness or dizziness.

Symptoms/effects after skin contact : Irritation.

Symptoms/effects after eye contact : Eye irritation.

Symptoms/effects after ingestion : May cause irritation to the digestive tract.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects.

TRICHLOROETHYLENE (79-01-6)	
LC50 fish 1	28.3 mg/l (EPA 660/3 - 75/009, 96 h, Jordanella floridae, Flow-through system, Fresh water, Experimental value, Lethal)

12.2. Persistence and degradability

TRICHLOROETHYLENE (79-01-6)	
Persistence and degradability	Non degradable in the soil. Biodegradable in the soil under anaerobic conditions. Not readily biodegradable in water.

12.3. Bioaccumulative potential

TRICHLOROETHYLENE (79-01-6)	
BCF fish 1	17 (14 day(s), Lepomis macrochirus, Flow-through system, Fresh water, Experimental value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	2.53 (Experimental value, Equivalent or similar to OECD 117, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

TRICHLOROETHYLENE (79-01-6)	
Partition coefficient n-octanol/water (Log Koc)	2.15 (log Koc, Experimental value)
Ecology - soil	Low potential for adsorption in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1950 Aerosols, 2.2 (6.1)

UN-No.(DOT) : UN1950

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Proper Shipping Name (DOT) : Aerosols
Class (DOT) : 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115
Subsidiary risk (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132
Hazard labels (DOT) : 2.2 - Non-flammable gas
6.1 - Poison



DOT Packaging Non Bulk (49 CFR 173.xxx) : None
DOT Packaging Bulk (49 CFR 173.xxx) : None
DOT Packaging Exceptions (49 CFR 173.xxx) : 306
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : Forbidden
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : Forbidden
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other : 25 - Protected from sources of heat, 87 - Stow "separated from" Class 1 (explosives) except Division 14, 126 - Segregation same as for Class 9, miscellaneous hazardous materials
Emergency Response Guide (ERG) Number : 126
Other information : No supplementary information available.

Transportation of Dangerous Goods

Transport document description : UN1950, 2.2 (6.1)
UN-No. (TDG) : UN1950
TDG Primary Hazard Classes : 2.2 - Class 2.2 - Non-Flammable, Non-Toxic Gas.
TDG Subsidiary Classes : 6.1

Transport by sea

Transport document description (IMDG) : UN 1950 AEROSOLS, 2.2 (6.1)
UN-No. (IMDG) : 1950
Proper Shipping Name (IMDG) : AEROSOLS
Class (IMDG) : -
Subsidiary risks (IMDG) : 6.1 - Toxic substances

Air transport

Transport document description (IATA) : UN 1950 Aerosols, flammable, 2.2
UN-No. (IATA) : 1950
Proper Shipping Name (IATA) : Aerosols, flammable
Class (IATA) : 2.2 - Gases : Non-flammable, non-toxic
Subsidiary hazards (IATA) : 6.1 - Toxic substances

SECTION 15: Regulatory information

15.1. US Federal regulations

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Listed on the United States TSCA (Toxic Substances Control Act) inventory

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Contains chemical(s) subject to TSCA 12b export notification if product is shipped outside the U.S

TRICHLOROETHYLENE	CAS-No. 79-01-6	80-100%
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Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

TRICHLOROETHYLENE	CAS-No. 79-01-6	80-100%
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TRICHLOROETHYLENE (79-01-6)	
Listed on EPA Hazardous Air Pollutant (HAPS)	
EPA TSCA Regulatory Flag	R - R - indicates a substance that is the subject of a TSCA section 6 risk management rule.
CERCLA RQ	100 lb

15.2. International regulations

CANADA

TRICHLOROETHYLENE (79-01-6)	
Listed on the Canadian DSL (Domestic Substances List)	


EU-Regulations

National regulations

D-2046	
Listed on the AICS (Australian Inventory of Chemical Substances)	
TRICHLOROETHYLENE (79-01-6)	
Listed on IARC (International Agency for Research on Cancer)	
Listed as carcinogen on NTP (National Toxicology Program)	

15.3. US State regulations

D-2046	
U.S. - California - Proposition 65 - Carcinogens List	Yes
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

 **WARNING:** This product can expose you to TRICHLOROETHYLENE, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

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Revision date : 06/15/2020

Full text of H-phrases:

H315	Causes skin irritation
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness
H341	Suspected of causing genetic defects
H350	May cause cancer

Hazard Rating

Health : 0 Minimal Hazard - No significant risk to health
Flammability : 0 Minimal Hazard - Materials that will not burn
Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.
Personal protection : B
B - Safety glasses, Gloves

SDS US (GHS HazCom 2012)

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.