TCI EUROPE N.V.

SAFETY DATA SHEET

According to 1907/2006/EC, Article 31

Revision number: 1 **Revision date:** 10/03/2018

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: 4-Vinyl-1-cyclohexene (stabilized with BHT)

Product code: V0023

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Reagents.

1.3 Details of the supplier of the safety data sheet

Supplier:

TCI EUROPE N.V.
Boerenveldseweg 6
Haven 1063
B-2070 Zwijndrecht
Telephone: +32(0)3 735 07 00
E-mail: sales-eu@tcichemicals.com

1.4 Emergency telephone number: +32(0)70 245 245

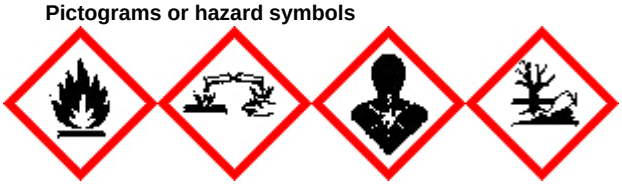
SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Flammable liquids	Category 2
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity - Repeated exposure [Category 1]	Organs
Aspiration hazard	Category 1
Long-term aquatic hazard	Category 2

2.2 Label elements

Pictograms or hazard symbols



Signal word Danger

Hazard statements

H225-Highly flammable liquid and vapour.
H315-Causes skin irritation.
H318-Causes serious eye damage.
H351-Suspected of causing cancer.
H361fd-Suspected of damaging fertility. Suspected of damaging the unborn child.
H372-Causes damage to organs through prolonged or repeated exposure.
H304-May be fatal if swallowed and enters airways.
H411-Toxic to aquatic life with long lasting effects.

Precautionary statements

P260-Do not breathe mist, vapours or spray.
P280-Wear protective gloves, protective clothing, face protection.
P301+P310+P331-IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.
P302+P352+P332+P313+P362+P364-IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse.
P305+P351+P338+P310-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
P370+P378-In case of fire: Use dry chemical or dry sand to extinguish.

2.3 Other hazards

May cause polimerization.
May form explosive peroxides.

Results of PBT and vPvB assessment

PBT: Not applicable

vPvB: Not applicable

SECTION 3: Composition/information on ingredients

3.1 Substances

Components:	4-Vinyl-1-cyclohexene (stabilized with BHT)
Percent:	>95.0%(GC)
CAS RN:	100-40-3
EC-No:	202-848-9
Chemical Formula:	C_8H_{12}

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.
Skin contact:	Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Get medical advice/attention.
Eye contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Get medical advice/attention.
Ingestion:	Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting.
Protection of first-aiders:	A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

4.2 Most important symptoms and effects, both acute and delayed

No data available

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:	Dry chemical, foam, carbon dioxide.
Unsuitable extinguishing media:	Water (It may scatter and spread fire.)

5.2 Special hazards arising from the substance or mixture	This substance may polimerize explosively when heated or involved in a fire. Container may explode when heated. Combat fire from a sheltered position. Carbon dioxide, Carbon monoxide
5.3 Advice for firefighters	Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Keep containers cool by spraying with water. Eliminate all ignition sources if safe to do so. When extinguishing fire, be sure to wear personal protective equipment

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures	Use extra personal protective equipment (self-contained breathing apparatus). Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc
6.2 Environmental precautions	Be careful not to let it flow into rivers, etc., since adverse effects on the environment are concerned
6.3 Methods and materials for containment and cleaning up	Absorb spilled material in dry sand or inert absorbent before recovering it into a covered container. In case of large amount of spillage, contain a spill by bunding. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations. Remove all sources of ignition. Fire-extinguishing devices should be prepared in case of a fire. Use spark-proof tools and explosion-proof equipment.
6.4 Reference to other sections	For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent generation of vapour or mist. Keep away from heat/sparks/open flame/hot surfaces. -No smoking. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a ventilation, local exhaust if vapour or aerosol will be generated. Avoid all contact! Confirm in advance if peroxides exist when operations involving heating such as distillation are carried out.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Store in a cool, dark and well-ventilated place. Store under inert gas. Store locked up. Store away from incompatible materials such as oxidizing agents.
Air-sensitive

7.3 Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

ACGIH TLV(TWA): 0.1 ppm

8.2 Exposure controls

Install a closed system or local exhaust. Also install safety shower and eye bath.

Respiratory protection: Half or full facepiece respirator, self-contained breathing apparatus(SCBA), supplied air respirator, etc. Use respirators approved under appropriate government standards and follow local and national regulations.

Hand protection: Impervious gloves.

Eye protection: Safety goggles. A face-shield, if the situation requires.

Skin and body protection: Impervious protective clothing. Protective boots, if the situation requires.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state (20°C):	Liquid
Form:	Clear
Colour:	Colorless - Very pale yellow
Odour:	No data available
pH:	No data available
Melting point/freezing point:	No data available
Boiling point/range:	128°C
Flash point:	16°C
Evaporation rate(Butyl Acetate=1):	No data available
Flammability(solid, gas):	No data available
Flammability or explosive limits:	
Lower:	No data available
Upper:	No data available
Vapour pressure:	1.5kPa/20°C
Vapour density:	3.73
Relative density:	0.83
Solubility(ies):	
[Water]	Insoluble (50mg/L, 25°C)
[Other solvents]	
Miscible:	Methanol
Soluble:	Ether, Benzene, Petroleum ether
Partition coefficient: n-octanol/water:	3.93
Autoignition temperature:	269°C
Decomposition temperature:	No data available
Dynamic Viscosity:	No data available
Kinematic viscosity:	No data available

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity No data available

10.2 Chemical stability Polymerization may occur under the influences of heat, light or on contact with polymerization initiators such as peroxides etc.
May form explosive peroxides.

10.3 Possibility of hazardous reactions No special reactivity has been reported.

10.4 Conditions to avoid Heat, Spark, Open flame, Static discharge, Air, Light

10.5 Incompatible materials Oxidizing agents

10.6 Hazardous decomposition products Carbon dioxide, Carbon monoxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute Toxicity: ihl-mus LC50:27 g/m^3
ihl-rat LCLo:8000 ppm/4H
orl-rat LD50:3080 uL/kg
skn-rbt LD50:20 mL/kg

Skin corrosion/irritation: No data available

Serious eye damage/irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity: orl-mus TDLo:103 g/kg/2Y-I
orl-rat TDLo:103 g/kg/102W-I

IARC = Group 2B (Possibly carcinogenic to humans)

NTP = No data available

Reproductive toxicity: ipr-mus TDLo:24 g/kg (30D pre)
orl-mus TDLo:500 mg/kg (multigenerations)

STOT-single exposure: No data available

STOT-repeated exposure: No data available

Aspiration hazard: No data available

RTECS Number: GW6650000

SECTION 12: Ecological information

12.1 Toxicity

Fish: 48h LC50:17 mg/L (Oryzias latipes)
96h LC50:4.6 mg/L (Oryzias latipes)

Crustacea: 48h EC50:1.9 mg/L (Daphnia magna)

Algae: 72h EC50:>14 mg/L (Selenastrum capricornutum)

12.2 Persistence and degradability 0% (by BOD) , 0% (by GC)

12.3 Bioaccumulative potential 83 - 211 (conc. 100 ug/L) , 110 - 208 (conc. 10 ug/L)

12.4 Mobility in soil

Log Pow: 3.93

Soil adsorption (Koc): 3300

Henry's Law (PaM ^{3}/mol): 4559

12.5 Results of PBT and vPvB assessment

PBT: Not applicable

vPvB: Not applicable

12.6 Other adverse effects No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recycle to process, if possible. Consult your local regional authorities. You may be able to burn in a chemical incinerator equipped with an afterburner and scrubber system but exert extra care in igniting as this material is highly flammable. Observe all federal, state and local regulations when disposing of the substance

SECTION 14: Transport information

14.1 UN number 3295

14.2 UN proper shipping name

ADR/RID	Hydrocarbons, liquid, n.o.s
IMDG/IMO	Hydrocarbons, liquid, n.o.s
ICAO/IATA	Hydrocarbons, liquid, n.o.s

14.3 Transport hazard class(es)

ADR/RID	3: Flammable liquid
IMDG/IMO	3: Flammable liquid
ICAO/IATA	3: Flammable liquid

14.4 Packaging group

ADR/RID	II
IMDG/IMO	II
ICAO/IATA	II

14.5 Environmental hazards

Marine pollutant Y

14.6 Special precautions for user No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Water Hazard Classes (WGK) :	Class 2 - Hazard to waters
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No.1907/2006	Not listed

15.2 Chemical safety assessment A chemical safety assessment has not been carried out.

SECTION 16: Other information

Prepared by: TCI EUROPE N.V.
Issue date: 10/03/2018

This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority.
The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.

End of Safety Data Sheet