



SAFETY DATA SHEET

2001/58/EC

Revision Date: 26.Jun.2007 (EU)
NA Issue DATE: 09.May.2002, NA Edition No. 20

REF. 0041/04/eng
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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product name: Perchloroethylene
Supplier PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
United States of America
Emergency telephone number ++1 412 434 4515 (USA)
++32 1 458 4545 (Europe)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name of the substance Tetrachloroethylene
Synonyms Perchlor, Tetrachloroethene.
EEC-No. 602-028-00-4 **Einecs No.** 221-921-6 **CAS-No.** 127-18-4
Hazardous impurities none.

3. HAZARDS IDENTIFICATION

Most important hazards: Harmful; possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.
Specific hazards Irritating to eyes, respiratory system and skin.

4. FIRST AID MEASURES

General advice

Show this safety data sheet to the doctor in attendance.
It is good practice in industrial hygiene to avoid contact with solvents by using appropriate protective measures whenever possible.

Inhalation

Move to fresh air. Oxygen or artificial respiration if needed.
Consult a physician.

Skin contact.

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Consult a physician.

Eye contact.

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Keep eye wide open while rinsing.

Ingestion.

Drink plenty of water. Do not induce vomiting. Call a physician immediately.
Never give anything by mouth to an unconscious person.

Protection of first-aiders

Wear personal protective equipment.
Solvents may degrease the skin.



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5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Water, carbon dioxide (CO₂), dry chemical.

Extinguishing media which must not be used for safety reasons

None.

Hazardous decomposition products

Hydrogen chloride gas, phosgene.

Special protective equipment for firefighters

In case of fire, wear a self contained breathing apparatus.

Wear personal protective equipment.

Specific methods

Cool containers / tanks with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Ensure adequate ventilation.

Wear personal protective equipment.

Evacuate personnel to safe areas.

Environmental precautions

Do not allow material to contaminate ground water system.

Dam up.

Methods for cleaning up

Dam up. Soak up with inert absorbent material.

Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Handling

Technical measures/Precautions

Use only in area provided with appropriate exhaust ventilation.

Safe handling advice

Wear personal protective equipment.

Use only in well-ventilated areas.

Keep away from open flames, hot surfaces and sources of ignition.

Avoid contact with skin and eyes.

Avoid formation of respirable particles.

Storage

Technical measures/Storage conditions

Keep in a well-ventilated place. Keep tightly closed.



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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure

Ensure adequate ventilation, especially in confined areas.

Control parameters

ACGIH 8 hr - TWA = 25 ppm STEL = 100 ppm

PPG Internal Permissible Exposure Limit (IPEL) 25 ppm, 8 hour Time Weighted Average.

Personal protection equipment

Respiratory protection

Wear a positive-pressure supplied-air respirator.

Hand protection

Solvent-resistant gloves.

Eye protection

Tightly fitting safety goggles / face-shield.

Skin and body protection

Protective suit, solvent-resistant apron.

Remove and wash contaminated clothing and gloves, including the inside, before re-use.

Hygiene measures

Avoid contact with skin, eyes and clothing.

When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	liquid	Colour	colourless	Odour	ether-like
pH			6.8 - 8.4		
Boiling point/range			121 °C		
Melting point/range			-22.3°C		
Flash point			none.		
Autoignition temperature			no data available		
Vapour pressure			14.2 mm Hg @ 20 °C		
Vapor density			5.83		
Bulk density			1.63 kg/l		
Solubility			Water solubility: 0.15 g/l @ 25 °C		



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10. STABILITY AND REACTIVITY

Stability

Stable at normal conditions.

Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

Hazardous decomposition products

Hydrogen chloride gas, phosgene.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LC50/inhalation/4h/rat = 4000 ppm

LD50/oral/rabbit = 5000 mg/kg

LD50/oral/rat = 250 -320 mg/kg

LD50/dermal/rabbit = 6384 mg/kg

Local effects

Concentration substantially above the admissible concentration at the workplace can damage the central nervous system and may cause collapse. May cause irritation of respiratory tract.

Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Inhalation of vapours in high concentration may cause shortness of breath (lung oedema).

May cause eye/skin irritation. Solvents may degrease the skin.

Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

Chronic toxicity

Chronic intensive skin contact may cause dermatitis.

Repeated absorption may cause disorder of central nervous system, liver and kidneys.

Specific effects

Did not show mutagenic effects in animal experiments. Animal experiments showed a statistically significant number of tumors. The European Community classifies perchloroethylene as a carcinogen of category 3.

Carcinogenic category 3 corresponds to "substances which cause concern for man owing to possible carcinogenic effects but in respect of which the available information is not adequate for making a satisfactory assessment."

12. ECOLOGICAL INFORMATION

Mobility

Water solubility: slight.

Persistence / degradability

Biochemical oxygen demand within 5 days (BOD5) = 0.06 g/g

Theoretical oxygen demand (ThOD) = 0.39 g/g

Ecotoxicity

LC50/96h/goldfish = 10 - 100 ppm

EC50/48h/Daphnia = 7.5 - 8.5 mg/l

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products

It must undergo special treatment (neutralise), e.g. at suitable disposal site, to comply with local regulations.

Contaminated packaging

Empty containers should be taken for local recycling, recovery or waste disposal.



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14. TRANSPORT INFORMATION

UN-No 1897

ADR/RID

Class 6.1 Item 15°(c) ADR/RID-Labels 6.1
HI/UN No: 60/1897
Proper shipping name Tetrachloroethylene, 6.1,15°(c), ADR/RID

IMO

Class 6.1 IMDG Page 6264
Packaging group. III IMO-Labels Toxic, Marine pollutant
EmS. 6.1-02 MFAG. 340
Proper shipping name Tetrachloroethylene, UN 1897

ICAO

Class 6.1 ICAO-Labels Toxic
Packing group. III
Proper shipping name Tetrachloroethylene, UN 1897

US DOT

Class 6.1 ID No. 1897
Packing group III DOT Labels Toxic, Marine pollutant
Proper shipping name Tetrachloroethylene

15. REGULATORY INFORMATION

According to (National equivalent of EC-Dir. 67/548), as amended, the product is labelled as follows:

Symbol(s): Xn - Harmful. N – Dangerous for the Environment
R-Phrases R40 - Possible risks of irreversible effects.
R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-Phrases S23 - Do not breathe vapour
S36/37 - Wear suitable protective clothing and gloves.
S61 - Avoid release to the environment. Refer to special instructions/Safety data sheets.

The European Community classifies perchloroethylene as a carcinogen of category 3.

16. OTHER INFORMATION

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.