

SAFETY DATA SHEET

Mighty Pen CW3700

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : Mighty Pen CW3700
Chemical name : d-limonene THF blend
Synonyms : CW3700, Mighty Pen(R)
Product type : Liquid.

Use of the substance/mixture : CLEANING PRODUCTS

Company/undertaking identification

Manufacturer : ITW Chemtronics
 8125 Cobb Center Drive
 Kennesaw, GA 30152

Distributor :

Importer : ITW Contamination Control BV
 Saffierlaan 5
 VZ-2132 Hoofddorp
 The Netherlands

Email: info@itw-cc.com

Tel: +31 88 1307 400
 FAX: +31 88 1307 499

e-mail address of person responsible for this SDS : askchemtronics@chemtronics.com

Emergency telephone number (with hours of operation) : Chemtrec - 1-800-424-9300 or collect 703-527-3887

2. HAZARDS IDENTIFICATION

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : F; R11
 Xi; R38
 R43

Physical/chemical hazards : Highly flammable.

Human health hazards : May cause sensitisation by skin contact. Irritating to eyes and skin.

Environmental hazards : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

See Section 11 for more detailed information on health effects and symptoms.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation : Preparation

Ingredient name	CAS number	%	EC number	Classification
(R)-p-mentha-1,8-diene	5989-27-5	60 - 90	227-813-5	R10 Xi; R38 R43 N; R50/53 [1]
tetrahydrofuran	109-99-9	10 - 40	203-726-8	F; R11 R19 Xi; R36/37 [1] [2]
See Section 16 for the full text of the R-phrases declared above.				

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES

First-aid measures

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- Inhalation** : Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

See Section 11 for more detailed information on health effects and symptoms.

5. FIRE-FIGHTING MEASURES

Extinguishing media

- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- Special exposure hazards** : Highly flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
- Methods for cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

6. ACCIDENTAL RELEASE MEASURES

- Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spill product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. HANDLING AND STORAGE

- Handling** : Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Keep away from heat, sparks and flame. Wash thoroughly after handling.
- Storage** : Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).
- Packaging materials**
- Recommended** : Use original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values

<u>Ingredient name</u>	<u>Occupational exposure limits</u>
tetrahydrofuran	<p>EU OEL (Europe, 4/2006). Absorbed through skin. Notes: Indicative</p> <p>Short term limit value: 300 mg/m³ 15 minute(s).</p> <p>Short term limit value: 100 ppm 15 minute(s).</p> <p>Limit value: 150 mg/m³ 8 hour(s).</p> <p>Limit value: 50 ppm 8 hour(s).</p>

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Exposure controls

- Occupational exposure controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Respiratory protection** : A respirator is not needed under normal and intended conditions of product use.
- Hand protection** : Use latex gloves. Double latex gloves should be considered.
- Eye protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
- Skin protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

General information

Appearance

- Physical state** : Liquid.
- Colour** : Colourless.
- Odour** : Lemon-like. [Slight]

Important health, safety and environmental information

- Boiling point** : 65°C (149°F)
- Melting point** : May start to solidify at the following temperature: -108.3°C (-162.9°F) This is based on data for the following ingredient: tetrahydrofuran.
- Flash point** : Closed cup: -14°C (6.8°F).
- Explosive properties** : Not considered to be a product presenting a risk of explosion.
- Vapour pressure** : 0.3 kPa (2 mm Hg) (at 20°C)

9. PHYSICAL AND CHEMICAL PROPERTIES

- Relative density** : Only known value: 0.888 (Water = 1) (tetrahydrofuran).
Vapour density : Highest known value: 2.5 (Air = 1) (tetrahydrofuran).
Evaporation rate (butyl acetate = 1) : <1 compared with butyl acetate
Other information
Auto-ignition temperature : Lowest known value: 320.85°C (609.5°F) (tetrahydrofuran).

10. STABILITY AND REACTIVITY

- Stability** : The product is stable.
Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Avoid release to the environment. Refer to special instructions/safety data sheet.
Materials to avoid : Highly reactive or incompatible with the following materials:
oxidizing materials
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION**Potential acute health effects**

- Inhalation** : Irritating to respiratory system.
Ingestion : Irritating to mouth, throat and stomach.
Skin contact : Irritating to skin. May cause sensitisation by skin contact.
Eye contact : Irritating to eyes.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
(R)-p-mentha-1,8-diene	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Intraperitoneal	Rat	3600 mg/kg	-
	LD50 Intravenous	Rat	110 mg/kg	-
	LD50 Oral	Rat	4400 mg/kg	-
	LDLo Subcutaneous	Rat	30200 mg/kg	-
	tetrahydrofuran	LD Oral	Rat	4000 mg/kg
LD50 Intraperitoneal		Rat	2900 mg/kg	-
LD50 Oral		Rat	2.3 mL/kg	-
LD50 Oral		Rat	1650 mg/kg	-
TDL0 Dermal		Rabbit	100 pph	-
TDL0 Oral		Rat	1000 mg/kg	-
LC50 Inhalation Vapour		Rat	72 g/m ³	2 hours
LC50 Inhalation Gas.		Rat	21000 ppm	3 hours

Potential chronic health effects

- Chronic effects** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
Ingestion : No specific data.
Skin : Adverse symptoms may include the following:
irritation
redness
Eyes : Adverse symptoms may include the following:
irritation
watering
redness
Target organs : Contains material which causes damage to the following organs: eye, lens or cornea.
Contains material which may cause damage to the following organs: mucous membranes, upper respiratory tract, skin, central nervous system (CNS).

12. ECOLOGICAL INFORMATION

Environmental effects : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
(R)-p-mentha-1,8-diene	-	Acute EC50 69600 ug/L Fresh water	Daphnia - Water flea - Daphnia pulex - Neonate - <24 hours	48 hours
	-	Acute LC50 35000 ug/L Fresh water	Fish - Rainbow trout, donaldson trout - Oncorhynchus mykiss	4 days
	-	Acute LC50 702 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 21.8 mm - 0.177 g	96 hours
tetrahydrofuran	-	Acute LC50 2160000 to 2360000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 34 days - 18.6 mm - 0.111 g	96 hours

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.





Other adverse effects : No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

14. TRANSPORT INFORMATION**International transport regulations**

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
ADR/RID Class	1993	FLAMMABLE LIQUIDS, N.O.S. ((R)-p-mentha-1,8-diene)	3	II		-
ADN/ADNR Class	1993	FLAMMABLE LIQUIDS, N.O.S. ((R)-p-mentha-1,8-diene)	3	II		Limited quantity
IMDG Class	1993	FLAMMABLE LIQUIDS, N.O.S. (Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (4R)-). Marine pollutant (Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (4R)-)	3	II		-Limited quantity
IATA Class	1993	FLAMMABLE LIQUIDS, N.O.S. (Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (4R)-)	3	II		Excepted Quantity

PG* : Packing group

15. REGULATORY INFORMATION**EU regulations**

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

Hazard symbol or symbols :



Highly flammable, Irritant

Risk phrases

: R11- Highly flammable.
R38- Irritating to skin.
R43- May cause sensitisation by skin contact.

Safety phrases

: S16- Keep away from sources of ignition - No smoking.
S24- Avoid contact with skin.
S2- Keep out of the reach of children.

Contains

: (R)-p-mentha-1,8-diene

Product use

: Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.
- Industrial applications

Europe inventory

: All components are listed or exempted.

Other EU regulations

Tactile warning of danger : Yes, applicable.

16. OTHER INFORMATION

Full text of R-phrases referred to in sections 2 and 3 - Europe

: R11- Highly flammable.
R10- Flammable.
R19- May form explosive peroxides.
R38- Irritating to skin.
R36/37- Irritating to eyes and respiratory system.
R36/37/38- Irritating to eyes, respiratory system and skin.
R43- May cause sensitisation by skin contact.
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of classifications referred to in sections 2 and 3 - Europe

: F - Highly flammable
Xi - Irritant
N - Dangerous for the environment

History

Date of printing : 12/21/2011.

Date of issue/Date of revision : 12/21/2011.

Date of previous issue : No previous validation.

Version : 1

Prepared by : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.