

MATERIAL SAFETY DATA SHEET

compliant with requirements of the Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning REACH (OJ of the EU L 396), with later amendments



CAPTAN SA

Compiled: 01.06.15

Revised: -

Version: 1.0

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

1.1. Product identifier

CAPTAN SA

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

Active substance of a fungicide. Is not to be used otherwise than as an active substance in plant protection products.

1.3. Details of the supplier of the Safety Data Sheet

Manufacturer: PUH CHEMIROL Sp. z o.o.

address: 3 Przemysłowa St., 88-300 Mogilno, Poland

VAT Reg. No.: PL 557-15-89-655

phone: +48 52 318 87 83/84

e-mail: RD@chemirol.com.pl

Person responsible for the Safety Data Sheet: RD@chemirol.com.pl

1.4. Emergency telephone number in Poland

Toxicological centers:

Gdańsk (58) 682 04 04 Kraków (12) 411 99 99 Lublin (81) 740 89 83 Łódź (42) 657 99 00	Poznań (61) 847 69 46 Rzeszów (17) 866 40 25 Sosnowiec (32) 266 11 45 Tarnów (14) 631 54 09	Warszawa (22) 619 66 54 Wrocław (71) 343 30 08
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Section 2. HAZARDS IDENTIFICATION

The product is classified as dangerous in accordance with applicable regulations.

2.1. Classification of the mixture

According to Directive 1272/2008 (CLP):

Carc.2, H351

Eye Dam.1; H318

Acute Tox.3; H331

Skin. Sens. 1, H317

Aquatic Acute 1, H400

2.2. Label elements

According to Directive 1272/2008 (CLP):



DANGER

Risk phrases (H-phrases):

H400 – Very toxic to aquatic life.

H351 – Suspected of causing cancer.

H318 – Causes serious eye damage.

H331 – Toxic if inhaled.

H317 – May cause an allergic skin reaction.

Safety phrases (P-phrases):

P273 – Avoid release to the environment.

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P302 + P352 – IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P261 – Avoid breathing spray.

2.3. Other hazards

Other hazards are not identified.

Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Substance

Ingredients hazardous to human health or the environment:

Chemical name	Index No.	CAS No.	EC No.	Content [% w/w]	CLP Classification
Captan Chemical name (IUPAC): N-(trichloromethylthio)cyclohex-4-ene-1,2-dicarboximide	613-044-00-6	133-06-2	205-087-0	≤100%	Carc.2, H351 Eye Dam.1; H318 Acute Tox.3; H331 Skin. Sens. 1, H317 Aquatic Acute 1, H400

Symbol explanation and full phrasing of H-phrases is included in Section 16.

Section 4. FIRST AID MEASURES

4.1. Description of first aid measures

General recommendations:

Avoid contamination of skin, eyes and clothing. In case of exposure immediately remove all contaminated clothing. If it is danger of loss of consciousness, place and transport in stable lateral position. In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

Procedure in case of:

- inhalation: move the victim to fresh air. If necessary administer oxygen or apply artificial respiration. In the case of a stronger poisoning seek medical advice.
- skin contact: Wash skin with water, then with soap and water. If skin irritation occurs: Get medical advice/attention.
- eye contact: wash immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.
- ingestion: do not induce vomiting unless specifically advised by a doctor. Wash mouth with water. Do not administer anything orally if the victim is unconscious.

4.2. Most important symptoms and effects, both acute and delayed

No data.

4.3. Indication of any immediate medical attention and special treatment needed

Antidote: none.

Treat symptomatically. If swallowed, gastric lavage and administer activated charcoal.

Section 5. FIREFIGHTING MEASURES

General recommendations:

Remove from the area all unauthorized personnel and persons not participating in elimination of the fire. Eliminate sources of ignition, do not smoke. If necessary call the Fire Service.

5.1. Extinguishing media

Appropriate media:

Foam, dry chemicals, carbon dioxide; if necessary use water spray.

Unsuitable media:

High-volume water jet.

5.2. Special hazards arising from the mixture

During fire dangerous gases may be evolved: nitrogen oxides, hydrogen chloride, carbon monoxide, sulfur oxides. Exposure to products of combustion may be a health hazard. Do not breathe fumes, gases or vapor.

5.3. Advice for firefighters

Use full protective clothing and a self-contained breathing apparatus. Isolate the exposed area. Isolate the water used for elimination of fire, do not allow it to enter sewers. Containers exposed to fire with water spray. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective measures – protective clothing, protective gloves, face shield. Avoid contact with skin, eyes and clothing. Avoid contact with spilled or released material. Restrict access to the area of bystanders failure until completion of the appropriate cleaners.

6.2. Environmental precautions

Do not empty into drains. Do not allow the product to enter sewers, ditches or waterways. Use appropriate containment to avoid environmental contamination. In the case of environmental contamination notify the relevant services.

6.3. Methods and material for containment and cleaning up

Collect damaged containers and place in an airtight container replacement.

Small spillage:

Collect immediately by vacuum and place in appropriate waste container.

Large spillage:

Avoid formation of dust. Isolate the spillage area. Collect with an electrically secured vacuum or wet sweep and place in appropriate waste container. For proper cleanup wash the spillage area with plenty of water.

6.4. Reference to other sections

Dispose of in accordance with recommendations listed in Section 13 of the Safety Data Sheet. During cleanup use personal protective measures as indicated in Section 8.

Section 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Follow the Occupational Safety and Health rules and regulations on handling chemicals. Use personal protective measures listed in Section 8. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wash hands thoroughly after handling. Take off contaminated clothing and wash before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Store only in original containers, tightly closed in a dry, well-ventilated place at temperature not lower than 0 °C and not exceeding 30 °C. Store in a place inaccessible to unauthorized personnel. Keep away from children and animals. Do not store with food, drink or animal foodstuffs. Store away from heat and hot surfaces.

7.3. Specific end use(s)

Strictly follow the label-instruction of use of the plant protection product.

Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Occupational Exposure Limits of mixture ingredients:

[Regulation of the Minister of Labor and Social Policy of 29 November 2002 concerning highest allowable concentrations and intensities of harmful agents in the work environment (J. of L. 2002 No. 217, item 1833) with later changes]

Captan: NDS= 5 mg/m³

Occupational Exposure Limits of mixture ingredients recommended by the manufacturer:

no recommendations

8.2. Exposure controls

Personal protective measures

The need for and selection of appropriate security measures should take into account the type of threat posed by the product, workplace conditions and the treatment of the product. Wear protective reputable manufacturers.

- Eye / face protection: Tight-fitting goggles and face shield (type goggles, e.g. EN 166)
- Skin protection: protective gloves recommended for handling chemicals (EN 374 e.g. nitrile rubber (0.4 mm), chloroprene rubber (0, 5 mm), butyl rubber (0.7 mm). Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, gas-tight and resistant to chemical-protection suit (according to EN 14605)
- Respiratory protection: avoid breathing vapor of the product or the prepared spray mixture; in case of insufficient ventilation wear breathing masks with appropriate filters or a self-contained breathing apparatus (filter with medium efficiency for solid and liquid particles e.g. EN 143 or 149, Type P2 I FFP2), filtering respirators to protect the respiratory tract, Type A filter material according to EN 136, 140 and 405).
- Thermal hazards: not present

Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Wash hands before every break and after work.
 Work only in well-ventilated rooms.
 Avoid contact with skin and eyes.

Environmental exposure controls

Do not empty into drains. Use containers to prevent the uncontrolled release into the environment of concentrate.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance:	Cream solid (90.3% purity) White solid (99.8% purity)
Odor:	characteristic
Odor threshold:	No data available
pH of 1% aqueous solution:	No data available
Melting/Freezing point:	173 – 175 °C (99.2% purity) 172 °C (99.8% purity)
Initial boiling point and boiling range:	not applicable, captan decomposes below the boiling point
Flash point:	No data available
Evaporation rate:	No data available
Flammability:	not applicable
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	4.2 x 10 ⁻⁶ Pa (20 °C) (99.8% purity) 2.01 x 10 ⁻⁴ Pa (50 °C) (98.95% purity)
Vapor density:	No data available
Relative density:	1.65 (99.2% purity) 1.71 at 20 °C (99.8% purity)
Solubility:	4.9 mg/L in purified water (20 °C) 4.8 mg/L at pH 5 (20 °C); 5.2 mg/L at pH 7 (20 °C); 3.77 mg/L (25 °C); 2.67 mg/L (15 °C)
Partition coefficient: n-octanol/water:	captan: 610
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available
Explosive properties:	Not explosive
Oxidizing properties:	Not oxidizing

9.2. Other information

Surface tension: 72.4 mN m⁻¹ at 20 °C (90.3% purity)

Section 10. STABILITY AND REACTIVITY

10.1. Reactivity

No reactivity under normal handling and storage conditions.

10.2. Chemical stability

Stable under normal handling and storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions, including hazardous polymerization, do not take place.

10.4. Conditions to avoid

Avoid temperatures beyond the recommended storage range. Protect from direct sunlight.

10.5. Incompatible materials

To be used only in accordance with the label-instruction of use. Use in mixtures with products other than recommended is prohibited.

Section 10. STABILITY AND REACTIVITY

10.6. Hazardous decomposition products

Not determined. Hazardous products of thermal decomposition are described in Section 5.

Section 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Data concerning the substance:

Acute toxicity:

- oral (rat): LD50 > 2,000 mg/kg bw (rat, mouse)
- dermal (rabbit): LD50 > 2,000 mg/kg bw (rat, rabbit)
- inhalation (rat): LC50 = 0.67 mg/L (for active substance)

Irritation:

- eyes (rabbit): Severely irritating
- skin (rabbit): Not irritating.

Sensitization:

- skin (guinea pig): Sensitizer (Magnusson and Kligman)

Caustic effect: captan: causes serious damage to eyes.

Sensitization: captan: cause sensitization by skin.

Carcinogenicity: captan: mouse, 2 years: NOEL: 400 ppm, classified as a carcinogen cat.2.

Mutagenicity: product does not contain ingredients identified mutagenic.

Reproductive toxicity: the product does not contain ingredients identified harmful effect on reproduction.

Operation target organ toxicity - single exposure:

It is unlikely that the product under normal conditions of use and handling of him, causing harmful effects.

Operation target organ toxicity - repeated exposure:

It is unlikely that the product under normal conditions of use and handling of him, causing harmful effects.

Information on likely routes of exposure - WARNING! The product is not fully explored!

Skin contact : may cause irritation, skin sensitization (captan)

Skin absorption: may be harmful if absorbed through the skin

Eye contact: may cause irritation of the eyes(captan)

Inhalation: may be irritating to mucous membranes and upper respiratory tract (captan)

Ingestion: may be harmful if swallowed

Section 12. ECOLOGICAL INFORMATION

12.1. Toxicity

Aquatic toxicity: captan active substance classified as toxic based on laboratory tests. Under natural conditions - the low toxicity due to the rapid hydrolytic degradation.

Data concerning the substance:

Toxicity for water organisms:

- fish (*Rainbow trout*): LC50/96h = 186 µg captan/L
- daphnia (*Daphnia magna* Straus): NOEC 21-day (semistatic) = 560 µg captan/L
- algae (*Selenastrum capricornutum*): EbC50 96-hour (static) = 1600 µg captan/L

Toxicity for honeybees (*Apis mellifera* L.):

- oral: LD50 > 100 µg captan/bee (captan tech.)
- contact: LC50 > 200 µg captan/bee (captan tech.)

12.2. Persistence and degradability

Captan: DT50 (25°C, aerobic) ≤ 1 day

DT50 (field) = 2.5 to 6 day, except in strongly acidic soil (i.e. pH 5.5 to 5.6), when 13.6-24 days in dry soil

12.3. Bioaccumulative potential

Captan: BCF = 140 (whole fish)

Captan and metabolites are not expected to accumulate in soil.

12.4. Mobility in soil

Captan: the product does not seep into the groundwater. Not measurable due to rapid hydrolysis.

Section 12. ECOLOGICAL INFORMATION

12.5. Results of PBT and vPvB assessment

None of the mixture ingredients is included in the ECHA candidate list of PBT or vPvB substances.

12.6. Other adverse effects

Information pointing to other adverse effects of use of the mixture is not available.

Section 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Disposal of product waste:

Do not empty into drains. Do not contaminate surface waters (ponds, water ways, ditches). Dispose of as hazardous material.

European Waste Code: 02 01 08 Agrochemical waste containing dangerous substances, including plant protection products of I and II toxicity class (very toxic and toxic).

Disposal of containers:

Triple rinse empty product containers and place the rinsate in the spray tank. Do not re-use empty containers for any purpose, including recycling. Return empty product containers to the product supplier. Dispose of as hazardous material. It is forbidden to burn packages of the plant protection product on its own.

DO NOT USE EMPTIED PACKAGING PLANT PROTECTION PRODUCTS FOR OTHER PURPOSES, INCLUDING THEIR TREATMENT AS A RECYCLING

Section 14. TRANSPORT INFORMATION

Land transport ADR/RID:

14.1. **UN number:** no data

14.2. **UN proper shipping name:** no data

14.3. **Transport hazard class(es):** no data

14.4. **Packaging group:** no data

14.5. **Environmental hazards:** no data

14.6. **Special precautions for user:** no data

14.7. **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable.

Section 15. REGULATORY INFORMATION

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

Legislation:

- REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (OJ of the EU L 396), with later changes
- REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (OJ of the EU L 353), with later changes
- DIRECTIVE 1999/45/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labeling of dangerous preparations (OJ of the EU L 200), with later changes
- BILL on chemical substances and mixtures (J. of L. 2011 No. 63, item 322), with later changes
- The European AGREEMENT concerning the International Carriage of Dangerous Goods by Road (ADR), version in force since 01.01.2011
- ORDINANCE of the Minister of Economy, Labor and Social Policy No. 1 of 12.02.2003 regarding ADR; ORDINANCE of the Minister of Economy and Labor No. 8 of 21.07.2004 regarding RID
- REGULATION of the Minister of Labor and Social Policy of 29 November 2002 concerning highest allowable concentrations and intensities of harmful agents in the work environment (J. of L. 2002 No. 217, item 1833) with later changes
- BILL of 11 May 2001 on packaging and packaging waste (J. of L. 2001 No. 63, item 638), with later changes
- REGULATION of the Minister of Environment of 27 September 2001 concerning waste catalogue (J. of L. 2001 No. 112, item 1206), with later changes
- REGULATION of the Minister of Labor and Social Policy of 31 May 2003 concerning basic requirements for personal protective equipment (J. of L. 2003 No. 80, item 725), with later changes
- REGULATION of the Minister of Labor and Social Policy of 26 September 1997 concerning general regulations on occupational safety and health (J. of L. 1997 No. 129, item 844), with later changes

Section 15. REGULATORY INFORMATION

- REGULATION (EC) No 1107/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC
- Act of 18 December 2003 r. on the plant protection (J. of L. 2004 No. 11, item. 94 with later changes)

15.2. Chemical safety assessment

It is not required.

Section 16. OTHER INFORMATION

Changes introduced at revision of the Safety Data Sheet:

Classification of the mixture according to Regulation CLP.

Sources of data for preparation of the Safety Data Sheet:

This document is prepared according to results of manufacturer's own studies, as well as based on information supplied by manufacturers of ingredients of the formulation and data on ingredients of the formulation available at EU level.

Symbols and H-phrases used in Section 3 and not included in Section 2:

Aquatic Chronic – chronic risk to aquatic environment

Acute Tox. – acute toxicity

Carc. – carcinogenic

Eye Dam. – corrosive to eyes

Skin. Sens. – skin sensitization

Other abbreviations and acronyms:

DT50 - period required for 50 percent disappearance (define method of estimation)

ER50 - emergence rate/effective rate, median

ErC50 - effective concentration (growth rate)

EC50 - effective concentration

CAS - Chemical Abstract Service

BCF - bioconcentration factor

AOEL - acceptable operator exposure level

a.s. - active substance

bw - body weight

LC50 - lethal concentration, median

Data included in this Safety Data Sheet is based on current knowledge and applies to the product in its formulation of use. This information is intended exclusively as guidance on safe handling, transport, use, storage and waste disposal and is not to be identified with a warranty or a quality certificate. The user is responsible for consequences resulting from inadequate use of information presented in this Safety Data Sheet or from inappropriate use of this product.