



Safety Data Sheet acc. to OSHA HCS

Printing date 10/05/2022

Revision date 10/05/2022

1 Identification

- **Product identifier**
- **Trade name:** Thujopsene
- **Article number:** 35270
- **Restrictions**
This chemical/product is not and cannot be distributed in commerce (as defined in TSCA section 3(5)) or processed (as defined in TSCA section 3(13)) for consumer paint or coating removal.
- **Application of the substance / the mixture**
This product is for research use - Not for human or veterinary diagnostic or therapeutic use.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Cayman Chemical Co.
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108
USA
- **Information department:** Product safety department
- **Emergency telephone number:**
During normal opening times: +1 (734) 971-3335
US/CANADA: 800-424-9300
Outside US/CANADA: 703-741-5970

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

- Muta. 2 H341 Suspected of causing genetic defects.
- Carc. 2 H351 Suspected of causing cancer.
- STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.
- Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

- Acute Tox. 4 H302 Harmful if swallowed.
- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Irrit. 2A H319 Causes serious eye irritation.
- STOT SE 3 H335 May cause respiratory irritation.

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/05/2022

Revision date 10/05/2022

Trade name: Thujopsene

(Contd. from page 1)

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

Dichloromethane

- **Hazard statements**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H341 Suspected of causing genetic defects.

H351 Suspected of causing cancer.

H335 May cause respiratory irritation.

H372 Causes damage to organs through prolonged or repeated exposure.

H304 May be fatal if swallowed and enters airways.

- **Precautionary statements**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

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

P301+P310 If swallowed: Immediately call a poison center/doctor.

P321 Specific treatment (see on this label).

P331 Do NOT induce vomiting.

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.

P314 Get medical advice/attention if you feel unwell.

P330 Rinse mouth.

P362+P364 Take off contaminated clothing and wash it before reuse.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

(Contd. on page 3)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/05/2022

Revision date 10/05/2022

Trade name: Thujopsene

(Contd. from page 2)

- **HMIS-ratings (scale 0 - 4)**

HEALTH	2	Health = 2
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 75-09-2	Dichloromethane	99.9%
RTECS: PA8050000		

- **Other ingredients**

470-40-6	Thujopsene	0.1%
----------	------------	------

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
Use fire fighting measures that suit the environment.
A solid water stream may be inefficient.
- **Special hazards arising from the substance or mixture**
67-56-1 During heating or in case of fire poisonous gases are produced.

(Contd. on page 4)

-US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/05/2022

Revision date 10/05/2022

Trade name: Thujopsene

(Contd. from page 3)

- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

75-09-2	Dichloromethane	200 ppm
---------	-----------------	---------

- **PAC-2:**

75-09-2	Dichloromethane	560 ppm
---------	-----------------	---------

- **PAC-3:**

75-09-2	Dichloromethane	6,900 ppm
---------	-----------------	-----------

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** Store in accordance with information listed on the product insert.
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

75-09-2 Dichloromethane

PEL	Short-term value: 125 ppm Long-term value: 25 ppm see 29 CFR 1910.1052
-----	--

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/05/2022

Revision date 10/05/2022

Trade name: Thujopsene

(Contd. from page 4)

REL	See Pocket Guide App. A
TLV	Long-term value: 50 ppm BEI, A3

· **Ingredients with biological limit values:**

75-09-2 Dichloromethane

BEI	0.3 mg/L Medium: urine Time: end of shift Parameter: Dichloromethane (semi-quantitative)
-----	---

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**
Safety glasses



Tightly sealed goggles

US

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/05/2022

Revision date 10/05/2022

Trade name: Thujopsene

(Contd. from page 5)

9 Physical and chemical properties

- Information on basic physical and chemical properties

- General Information

- Appearance:

- Form:

Liquid

- Color:

Colorless

- Odor:

Pleasant

- Structural Formula

C₁₅H₂₄

- Molecular Weight

204.4 g/mol

- Odor threshold:

Not determined.

- Formulation

A solution in dichloromethane

- pH-value:

Not determined.

- Change in condition

- Melting point/Melting range:

-95.1 °C (-139.2 °F)

- Boiling point/Boiling range:

40 °C (104 °F)

- Flash point:

Not applicable.

- Flammability (solid, gaseous):

Not applicable.

- Ignition temperature:

605 °C (1,121 °F)

- Decomposition temperature:

Not determined.

- Auto igniting:

Product is not selfigniting.

- Danger of explosion:

Product does not present an explosion hazard.

- Explosion limits:

- Lower:

13 Vol %

- Upper:

22 Vol %

- Vapor pressure at 20 °C (68 °F):

453 hPa (339.8 mm Hg)

- Density at 20 °C (68 °F):

1.33 g/cm³ (11.09885 lbs/gal)

- Relative density

Not determined.

- Vapor density

Not determined.

- Evaporation rate

Not determined.

- Solubility in / Miscibility with

- Water at 20 °C (68 °F):

20 g/l

- Partition coefficient (n-octanol/water):

Not determined.

- Viscosity:

- Dynamic at 20 °C (68 °F):

0.43 mPas

- Kinematic:

Not determined.

- SOLUBILITY

Chloroform: slightly soluble; Dichloromethane: slightly soluble

- Solvent content:

- Organic solvents:

99.9 %

- VOC content:

0.00 %

0.0 g/l / 0.00 lb/gal

- Solids content:

0.1 %

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/05/2022

Revision date 10/05/2022

Trade name: Thujopsene

(Contd. from page 6)

· **Other information**

No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

ATE (Acute Toxicity Estimate)		
Oral	LD50	1,602 mg/kg (rat)

75-09-2 Dichloromethane		
Oral	LDLO	357 mg/kg (hmn)
	LD50	1,600 mg/kg (rat)
	TDLO	1,429 µL/kg (man)
Inhalative	LC50/4 h	88 mg/l (rat)
	Intraperitoneal LD50	916 mg/kg (rat)
	Subcutaneous LD50	6,460 mg/kg (mouse)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

75-09-2	Dichloromethane	2A
---------	-----------------	----

- **NTP (National Toxicology Program)**

75-09-2	Dichloromethane	R
---------	-----------------	---

- **OSHA-Ca (Occupational Safety & Health Administration)**

75-09-2	Dichloromethane	
---------	-----------------	--

US

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/05/2022

Revision date 10/05/2022

Trade name: Thujopsene

(Contd. from page 7)


12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|----------------------|
| · UN-Number | |
| · DOT, IMDG, IATA | UN1593 |
| · UN proper shipping name | |
| · DOT, IATA | Dichloromethane |
| · IMDG | DICHLOROMETHANE |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 6.1 Toxic substances |
| · Label | 6.1 |

(Contd. on page 9)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/05/2022

Revision date 10/05/2022

Trade name: Thujopsene

(Contd. from page 8)

· **IMDG, IATA**

· **Class** 6.1 Toxic substances
 · **Label** 6.1

· **Packing group**
 · **DOT, IMDG, IATA** III

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Toxic substances
 · **Hazard identification number (Kemler code):** 60
 · **EMS Number:** F-A,S-A
 · **Segregation groups** Liquid halogenated hydrocarbons
 · **Stowage Category** A

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**
 · **Quantity limitations** On passenger aircraft/rail: 60 L
 On cargo aircraft only: 220 L

· **IMDG**

· **Limited quantities (LQ)** 5L
 · **Excepted quantities (EQ)** Code: E1
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 1000 ml

· **IATA**

· **Remarks:** When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

· **UN "Model Regulation":** UN 1593 DICHLOROMETHANE, 6.1, III

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
 · **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

75-09-2 Dichloromethane

(Contd. on page 10)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/05/2022

Revision date 10/05/2022

Trade name: Thujopsene

(Contd. from page 9)

- **TSCA (Toxic Substances Control Act):**

This chemical/product is not and cannot be distributed in commerce (as defined in TSCA section 3(5)) or processed (as defined in TSCA section 3(13)) for consumer paint or coating removal.

All components have the value ACTIVE.

- **Hazardous Air Pollutants**

75-09-2	Dichloromethane
---------	-----------------

- **Proposition 65**

- **Chemicals known to cause cancer:**

75-09-2	Dichloromethane
---------	-----------------

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

75-09-2	Dichloromethane	L
---------	-----------------	---

- **TLV (Threshold Limit Value)**

75-09-2	Dichloromethane	A3
---------	-----------------	----

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

75-09-2	Dichloromethane
---------	-----------------

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

All chemicals may pose unknown hazards and should be used with caution. This SDS applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. Cayman Chemical Company assumes no responsibility for incidental or consequential damages, including lost profits, arising from the use of these data. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Cayman Chemical Company assumes no responsibility for the completeness or accuracy of the information contained herein.

- **Department issuing SDS:** Environment protection department.

- **Contact:** -

- **Date of preparation / last revision** 10/05/2022 / -

- **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

(Contd. on page 11)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/05/2022

Revision date 10/05/2022

Trade name: Thujopsene

(Contd. from page 10)

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 2: Carcinogenicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Asp. Tox. 1: Aspiration hazard – Category 1

· *** Data compared to the previous version altered.**

US