

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

1.1. Product identifier

Product form	: Substance
Substance name	: Trichlorfon Tech. min. 97%
Chemical name	: trichlorfon (ISO), dimethyl 2,2,2-trichloro-1-hydroxyethylphosphonate
IUPAC name	: Dimethyl 2,2,2-trichloro-1-hydroxyethylphosphonate
EC index no	: 015-021-00-0
EC no	: 200-149-3
CAS No	: 52-68-6
Type of product	: Biocide
Formula	: C4H8Cl3O4P

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

1.2.1. Relevant identified uses

Main use category	: Professional use
Use of the substance/mixture	: Insecticide

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Simonis B.V.
7000 AP Doetinchem - The Netherlands
T +31 314 333 700 - F +31 314 344 167
agrochem@simonisbv.nl - <http://www.simonisbv.nl/>

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Remark
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA Belfast	0344 892 0111	Only for the purpose of informing medical personnel in cases of acute intoxications
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0344 892 0111	Only for the purpose of informing medical personnel in cases of acute intoxications

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), Category 4	H302
Acute toxicity (dermal), Category 4	H312
Sensitisation — Skin, Category 1	H317
Hazardous to the aquatic environment — Acute Hazard, Category 1	H400
Hazardous to the aquatic environment — Chronic Hazard, Category 1	H410

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Very toxic to aquatic life with long lasting effects. May cause an allergic skin reaction. Harmful in contact with skin. Harmful if swallowed.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP) : Warning

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Hazard statements (CLP)	: H302+H312 - Harmful if swallowed or in contact with skin H317 - May cause an allergic skin reaction H410 - Very toxic to aquatic life with long lasting effects
Precautionary statements (CLP)	: P261 - Avoid breathing dust P273 - Avoid release to the environment P280 - Wear protective clothing, protective gloves, eye protection, Dust production: dust mask with filter type P2 P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell P302+P352 - IF ON SKIN: Wash with plenty of soap and water P333+P313 - If skin irritation or rash occurs: Get medical advice/attention P501 - Dispose of contents/container to an approved waste disposal plant

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	: Trichlorfon Tech. min. 97%
CAS No	: 52-68-6
EC no	: 200-149-3
EC index no	: 015-021-00-0

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Trichlorfon	(CAS No) 52-68-6 (EC no) 200-149-3 (EC index no) 015-021-00-0	> 97	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M=1000) Aquatic Chronic 1, H410

Full text of H-phrases: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	: Take off contaminated clothing. Wash skin with plenty of water. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting without medical advice. Call a poison center or a doctor if you feel unwell.

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

Symptoms/injuries after inhalation	: Harmful if inhaled.
Symptoms/injuries after skin contact	: May be harmful in contact with skin. May cause an allergic skin reaction.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: Harmful if swallowed.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

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5.2. Special hazards arising from the substance or mixture

Fire hazard	: Non flammable.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: For further information, refer to section 10 : "Stability and Reactivity".

5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	: Prevent fire fighting water from entering the environment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel. Avoid breathing dust. Avoid contact with skin, eyes and clothing.
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6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection. For further information refer to section 8 : "Exposure-controls/personal protection".
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Do not allow to enter drains or water courses.

6.3. Methods and material for containment and cleaning up

For containment	: Collect spillage.
Methods for cleaning up	: Sweep or shovel spills into appropriate container for disposal.
Other information	: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8 : "Exposure-controls/personal protection". Concerning disposal elimination after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Avoid breathing dust. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Concerning personal protective equipment to use, see item 8.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep only in the original container in a cool well ventilated place. Keep container closed when not in use.
Incompatible products	: Strong bases. Strong acids. Strong oxidation agent.
Heat and ignition sources	: Keep away from heat and direct sunlight.

7.3. Specific end use(s)

Insecticide.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

Protective clothing. Gloves. Safety glasses. Dust production: dust mask with filter type P2.

Hand protection:

Wear suitable gloves resistant to chemical penetration. Chemical resistant gloves (according to European standard NF EN 374 or equivalent)

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Type	Material	Permeation	Thickness (mm)	Penetration	Standard
	Polyvinylchloride (PVC)	6 (> 480 minutes)	0.11		EN 374

Eye protection:

Safety glasses. DIN EN 166

Skin and body protection:

Wear suitable protective clothing. CEN : EN 340; EN 369; EN 465

Respiratory protection:

Wear respiratory protection

Device	Filter type	Condition	Standard
Dust mask	(FFP2)	Dust protection, Protection for Solid particles	EN 143



Environmental exposure controls:

Avoid release to the environment.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder.
Molecular mass	: 257,4 g/mol
Colour	: Off-white.
Odour	: characteristic.
Odour threshold	: No data available
pH	: 5 - 9
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 1,73 20°C
Solubility	: Soluble in water. Water: 120 g/l
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known.

10.4. Conditions to avoid

Keep away from heat and direct sunlight.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidation agent.

10.6. Hazardous decomposition products

Combustion generates : Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Dermal: Harmful in contact with skin.

Trichlorfon (52-68-6)	
LD50 oral rat	250 mg/kg
LC50 inhalation rat (mg/l)	> 2,3 mg/l
Skin corrosion/irritation	: Not classified pH: 5 - 9
Serious eye damage/irritation	: Not classified pH: 5 - 9
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.

Trichlorfon (52-68-6)	
LC50 fishes 1	0,7 Oncorhynchus mykiss
LC50 fish 2	0,52 Leuciscus idus
EC50 Daphnia 1	0,00096 mg/l
EC50 72h algae (1)	> 10 mg/l Scenedesmus subspicatus

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Trichlorfon Tech. min. 97% (52-68-6)	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

12.6. Other adverse effects

Additional information : Avoid release to the environment

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Incinerate at a licensed installation.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Additional information	: Empty containers should be taken for recycle, recovery or waste in accordance with local regulation.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
2783	2783	2783	2783	2783
14.2. UN proper shipping name				
ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC (Trichlorfon)	ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC (Trichlorfon)	ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC (Trichlorfon)	ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC (Trichlorfon)	ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC (Trichlorfon)
Transport document description				
UN 2783 ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC (Trichlorfon), 6.1, III, (E), ENVIRONMENTALLY HAZARDOUS	UN 2783 ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC (Trichlorfon), 6.1, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 2783 ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC (Trichlorfon), 6.1, III, ENVIRONMENTALLY HAZARDOUS	UN 2783 ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC (Trichlorfon), 6.1, III, ENVIRONMENTALLY HAZARDOUS	UN 2783 ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC (Trichlorfon), 6.1, III, ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)				
6.1	6.1	6.1	6.1	6.1
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
No supplementary information available				

14.6. Special precautions for user

- Overland transport

Classification code (ADR)	: T7
Special provisions (ADR)	: 61, 274, 648
Limited quantities (ADR)	: 5kg
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P002, IBC08, LP02, R001
Mixed packing provisions (ADR)	: MP10
Portable tank and bulk container instructions (ADR)	: T1
Portable tank and bulk container special provisions (ADR)	: TP33
Tank code (ADR)	: SGAH, L4BH
Tank special provisions (ADR)	: TU15, TE19
Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Special provisions for carriage - Bulk (ADR)	: VC1, VC2, AP7
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13, CV28
Special provisions for carriage - Operation (ADR)	: S9
Hazard identification number (Kemler No.)	: 60

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Orange plates : 

Tunnel restriction code (ADR) : E
EAC code : 2X

- Transport by sea

Special provisions (IMDG) : 61, 223, 274
Limited quantities (IMDG) : 5 kg
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P002, LP02
IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B3
Tank instructions (IMDG) : T1
Tank special provisions (IMDG) : TP33
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-A
Stowage category (IMDG) : A
Stowage and handling (IMDG) : SW2
Properties and observations (IMDG) : Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation
MFAG-No : 152

- Air transport

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y645
PCA limited quantity max net quantity (IATA) : 10kg
PCA packing instructions (IATA) : 670
PCA max net quantity (IATA) : 100kg
CAO packing instructions (IATA) : 677
CAO max net quantity (IATA) : 200kg
Special provisions (IATA) : A3, A5
ERG code (IATA) : 6L

- Inland waterway transport

Classification code (ADN) : T7
Special provisions (ADN) : 61, 274, 648, 802
Limited quantities (ADN) : 5 kg
Excepted quantities (ADN) : E1
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 0

- Rail transport

Classification code (RID) : T7
Special provisions (RID) : 61, 274, 648
Limited quantities (RID) : 5kg
Excepted quantities (RID) : E1
Packing instructions (RID) : P002, IBC08, LP02, R001
Special packing provisions (RID) : B3
Mixed packing provisions (RID) : MP10
Portable tank and bulk container instructions (RID) : T1
Portable tank and bulk container special provisions (RID) : TP33
Tank codes for RID tanks (RID) : SGAH, L4BH
Special provisions for RID tanks (RID) : TU15
Transport category (RID) : 2
Special provisions for carriage – Bulk (RID) : VC1, VC2, AP7

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Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW28, CW31
Colis express (express parcels) (RID) : CE11, CE12
Hazard identification number (RID) : 60

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Trichlorfon Tech. min. 97% is not on the REACH Candidate List

Trichlorfon Tech. min. 97% is not on the REACH Annex XIV List

Type of product (Biocide) : 18 - Insecticides, acaricides and products to control other arthropods

Seveso Information : E1 Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

SDS	Safety Data Sheet
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
PBT	Persistent Bioaccumulative Toxic
vPvB	Very Persistent and Very Bioaccumulative
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
LC50	Median lethal concentration
LD50	Median lethal dose
CAS	CAS (Chemical Abstracts Service) number
	EG-nr.: EINECS- en ELINCS-number
	EINECS: European Inventory of Existing Commercial Substances
NOEC	No-Observed Effect Concentration
	STOT: Specific Target Organ Toxicity
PNEC	Predicted No-Effect Concentration
	PEC: Predicted Environmental Concentration
	OEL: Occupational Exposure Limit

Data sources : according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830.

Other information : REACH Disclaimer:
This information is based on current knowledge. Consistency of data in the SDS with CSR is considered, as far as the information is available at the time of compilation (cfr Revision date and Version number). **DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Full text of H- and EUH-statements:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
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Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Skin Sens. 1	Sensitisation — Skin, Category 1
H302	Harmful if swallowed
H312	Harmful in contact with skin
H317	May cause an allergic skin reaction
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Safety Data Sheet applicable for regions : GB - United Kingdom

This Safety Data Sheet is compiled by :

Trade Wind B.V. (info@twnl.com)

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product