

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

1.1. Product identifier

Product form : Substance
Name : Vanadium trichloride
EC-No. : 231-744-6
CAS-No. : 7718-98-1
REACH registration No : 01-2120761048-54-0000
Formula : VCl₃

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Synthesis intermediate

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

MSSA S.A.S.
111, Rue de la Volta - Pomblière
73600 SAINT-MARCEL - France
T +33 (0)4 79 24 70 70 - F +33 (0)4 79 24 70 50
fds-msds@metauxspeciaux.fr

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital, Guy's & St Thomas' Hospital Trust	Dudley Road B18 7QH Birmingham	0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours)	-

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin Corr. 1C H314
Aquatic Chronic 3 H412

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

Causes severe skin burns and eye damage. Harmful to aquatic life with long lasting effects. Corrosive to the respiratory tract.

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS05

Signal word (CLP) :

: Danger

Hazard statements (CLP) :

: H314 - Causes severe skin burns and eye damage.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) :

: P260 - Do not breathe dust.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P301+P330+P331+P310 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER, a doctor.
P303+P361+P353+P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.. Immediately call a doctor, a POISON CENTER.
P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER, a doctor.
P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

EUH-statements :

: EUH071 - Corrosive to the respiratory tract.

2.3. Other hazards

Other hazards not contributing to the classification : Dust may form explosive mixture in air.

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

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

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Vanadium trichloride	(CAS-No.) 7718-98-1 (EC-No.) 231-744-6 (REACH-no) 01-2120761048-54-0000	>= 99.8	Skin Corr. 1C, H314 Aquatic Chronic 3, H412

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Move the affected person away from the contaminated area and into the fresh air. Keep victim warm and rested. If breathing is difficult, give oxygen. Call a physician immediately.
First-aid measures after skin contact	: Immediately remove contaminated clothing or footwear. Rinse immediately with plenty of water. Be careful, the product may remain trapped under clothing, footwear or a wrist-watch... Call a physician immediately. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist immediately, even if there are no immediate symptoms.
First-aid measures after ingestion	: Give nothing to eat or drink. Do not induce vomiting. Rinse mouth out with water. Give activated charcoal. Call a physician immediately. On ingestion in large quantities: Transfer to hospital rapidly.

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

Symptoms/effects after inhalation	: Corrosive to the respiratory tract.
Symptoms/effects after skin contact	: Burns. Ulcerations. Bleeding. Bloody scabs.
Symptoms/effects after eye contact	: Burns. Causes serious eye damage.
Symptoms/effects after ingestion	: Corrosion or irritation of the linings of the mouth, throat, and gastrointestinal tract.

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	: Carbon dioxide (CO2). Powder.
Unsuitable extinguishing media	: Water.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Under fire conditions, hazardous fumes will be present. hydrogenchloride. Divanadium pentaoxide.
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5.3. Advice for firefighters

Firefighting instructions	: Contain the extinguishing fluids by bunding.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment : Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Avoid contact with skin and eyes. Avoid breathing dust. In case of important spillage : Only qualified personnel equipped with suitable protective equipment may intervene.
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6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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6.2. Environmental precautions

Contain the spilled material by bunding (product is hazardous for the environment). Do not discharge into drains or rivers. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	: Mechanically recover the product. Avoid raising powdered materials into airborne dust.
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Methods for cleaning up : Wash contaminated area with large amounts of water. Clean preferably with a detergent - Avoid the use of solvents. Dispose of contaminated materials in accordance with current regulations.

6.4. Reference to other sections

For further information refer to 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 any direct contact with the product. Do not breathe dust. Avoid contact of substance with water. Never open the packages under pressure. Access forbidden to unauthorised personnel. Smoking is forbidden.

Hygiene measures : Do not drink, eat or smoke in the workplace. Always wash hands after handling the product. If on skin, take off contaminated clothing.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in dry, well-ventilated area. Keep container tightly closed. Keep away from food, drink and animal feeding stuffs.

Incompatible materials : Water. Strong oxidizing agents.

Special rules on packaging : Store always product in container of same material as original container.

7.3. Specific end use(s)

No additional information available

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. Extraction to remove vapours at their source. Safety shower. Eye fountain.

Personal protective equipment:

Safety glasses. Gloves. Protective clothing. Gas mask with filter type E.

Hand protection:

Chemical resistant gloves (according to European standard NF EN 374 or equivalent). Breakthrough time : refer to the recommendations of the supplier

Eye protection:

Safety glasses with side shields conformes à a norme NF EN166. In case of increased risk : Face shield

Skin and body protection:

Chemically protective clothing (type 5) according to standard NF EN3982-1. Boots

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment : Filtering Half-face mask (DIN EN 149). Breathing apparatus with filter : FFP1 / FFP3. Breathing apparatus with filter : E3 (NF EN14387)

Personal protective equipment symbol(s):



Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Powder.

Molecular mass : 157.3 g/mol

Colour : Violet.

Odour : Pungent.

Odour threshold : No data available

pH : Not applicable

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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	: Not applicable
Auto-ignition temperature	: No data available
Decomposition temperature	: 250 - 400 °C
Flammability (solid, gas)	: The product is not flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: > 1
Solubility	: Water: Soluble
Log Pow	: Not applicable (inorganic substance)
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive.
Oxidising properties	: Non oxidizing material according to EC criteria.
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Dust may form explosive mixture in air.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Moisture. Air contact.

10.5. Incompatible materials

Water. Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)
Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: Not applicable
Serious eye damage/irritation	: Serious eye damage/eye irritation, Category 1 pH: Not applicable
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
Additional information	: Corrosive to the respiratory tract.
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Technical impossibility to obtain the data)

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity	: Not classified (Based on available data, the classification criteria are not met)
Chronic aquatic toxicity	: Harmful to aquatic life with long lasting effects.

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LC50 fish	4 mg/l/96h (Danio rerio) (Test method EU C.1)
EC50 Daphnia	3.5 mg/l/48 h (Daphnia magna) (Test method EU C.2)
ErC50 (algae)	17 mg/l/72 h (Pseudokirchneriella subcapitata)(OECD 201 method)
NOEC chronic algae	6.8 mg/l/72 h (Pseudokirchneriella subcapitata)(OECD 201 method)

12.2. Persistence and degradability

Vanadium trichloride (7718-98-1)

Biodegradation	Not applicable (inorganic substance)
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12.3. Bioaccumulative potential

Vanadium trichloride (7718-98-1)

Log Pow	Not applicable (inorganic substance)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Vanadium trichloride (7718-98-1)

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

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Dispose of in accordance with relevant local regulations. Destroy at an authorised site.
Additional information	: Empty the packaging completely prior to disposal. The user's attention is drawn to the possible existence of specific european, national or local regulations regarding disposal.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
UN 2475	UN 2475	UN 2475	UN 2475	UN 2475
14.2. UN proper shipping name				
VANADIUM TRICHLORIDE	VANADIUM TRICHLORIDE	Vanadium trichloride	VANADIUM TRICHLORIDE	VANADIUM TRICHLORIDE
14.3. Transport hazard class(es)				
8	8	8	8	8
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
14.6. Special precautions for user				

Overland transport

Classification code (ADR)	: C2
Limited quantities (ADR)	: 5kg
Excepted quantities (ADR)	: E1

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Packing instructions (ADR)	: P002, IBC08, LP02, R001
Special packing provisions (ADR)	: B3
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)	: SGAV
Vehicle for tank carriage	: AT
Transport category (ADR)	: 3
Special provisions for carriage - Bulk (ADR)	: VC1, VC2, AP7
Hazard identification number (Kemler No.)	: 80
Orange plates	:



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

Transport by sea

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-B
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW2
MFAG-No	: 157

Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y845
PCA limited quantity max net quantity (IATA)	: 5kg
PCA packing instructions (IATA)	: 860
PCA max net quantity (IATA)	: 25kg
CAO packing instructions (IATA)	: 864
CAO max net quantity (IATA)	: 100kg
Special provisions (IATA)	: A803
ERG code (IATA)	: 8W

Inland waterway transport

Classification code (ADN)	: C2
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)	: C2
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)	: SGAV
Transport category (RID)	: 3
Special provisions for carriage – Bulk (RID)	: VC1, VC2, AP7
Colis express (express parcels) (RID)	: CE11

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Hazard identification number (RID) : 80

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

Vanadium trichloride is not on the REACH Candidate List

Vanadium trichloride is not on the REACH Annex XIV List

Vanadium trichloride is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

Vanadium trichloride is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

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

Indication of changes:

This sheet has been revised completely (changes were not marked).

Abbreviations and acronyms:

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
IMDG	International Maritime Dangerous Goods
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
WGK	Wassergefährdungsklasse (Water Hazard Class).

Other information : Safety data sheet established by : LISAM TELEGIS
17 rue de la Couture F-60400 Passel
www.lisam-telegis.com.

Full text of H- and EUH-statements:

Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Skin Corr. 1C	Skin corrosion/irritation, Category 1C
H314	Causes severe skin burns and eye damage.
H412	Harmful to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

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.