



Preparing for the New Era of Laboratories

MATERIAL SAFETY DATA SHEET (MSDS)

According to regulation (EU) no.1907/2006

TITANIUM TRICHLORIDE SOLUTION 15% W/V for Synthesis

PRODUCT CODE : B-3073

CAS No : 7705-07-9

FORMULA : TiCl_3

UN No : 3264

MATERIAL SAFETY DATA SHEET (SDS/MSDS)
TITANIUM TRICHLORIDE SOLUTION 15% W/V for Synthesis

MSDS Number : 0397

Date : Oct 8th, 2024

Version : 1.0

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

- 1.1 Product Name** : TITANIUM TRICHLORIDE SOLUTION 15% W/V for Synthesis
Synonyms : Titanium (III) Chloride Solution
CAS No. : 7705-07-9
HS Code : 3822 00 90
Chemical Formula : TiCl₃
Molecular Weight : 154,23 g/mol
Product Code : B-3073
Brand : Labotiq
- 1.2 Manufacturer** : Labotiq
Address : Jl.Terapi Raya AD2-Bumi Menteng Asri Bogor, Jawa Barat Indonesia – 16111
Website : www.labotiq.net
Email : labotiq.id@gmail.com
For information : Phone : (+62-251) 839110, 8311662, Fax : (+62-251) 83135710
Emergency number : +6281316894650
- 1.3 Application** : Laboratory chemicals, Manufacture of substances

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

- Corrosive to Metals, (Category 1) H290: May be corrosive to metals.
 Skin corrosion, (Category 1) H314: Causes severe skin burns and eye damage.
 Serious eye damage, (Category 1) H318: Causes serious eye damage.

Specific target organ toxicity –
 single exposure, (Category 3),
 Respiratory system

H335: May cause respiratory irritation.

For the full text of the H-Statements mentioned in this Section, see Section 16

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H290

May be corrosive to metals.

H314

Causes severe skin burns and eye damage.

H335

May cause respiratory irritation.

Precautionary statement(s)

P234

Keep only in original packaging.

P261

Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P271

Use only outdoors or in a well-ventilated area.

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P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard information (EU) EUH014 Reacts violently with water.

Reduced labelling (≤125 ml) Hazard pictograms



Signal word Danger

Hazard statements H314

Causes severe skin burns and eye damage.

Precautionary statements P280

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

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P305 + P351 + P338

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

Supplemental Hazard Statements
EUH014

Reacts violently with water.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: Titanium (III) Chloride Solution
Formula	: TiCl ₃
Molecular weight	: 154,23 g/mol
CAS-No.	: 7705-07-9

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3.2 Mixture**Hazardous ingredients according to Regulation (EC) No 1272/2008**

Component	Classification	Concentration
Titanium(III) chloride CAS-No. 7705-07-9 EC-No. 231-728-9	Pyr. Sol. 1; Skin Corr. 1B; H250, H314	
		>= 10 - < 20 %
Hydrochloric Acid CAS-No. 7647-01-0 EC-No. 231-595-7 Index-No. 017-002-00-2 Registration number 01-2119484862-27- XXXX	Met. Corr. 1; Skin Corr. 1B; Eye Dam. 1; STOT SE 3; H290, H314, H318, H335 Concentration limits: >= 0,1 %: Met. Corr. 1, H290; >= 25 %: Skin Corr. 1B, H314; 10 - < 25 %: Skin Irrit. 2, H315; 10 - < 25 %: Eye Irrit. 2, H319; >= 10 %: STOT SE 3, H335;	
		>= 10 - < 20 %

SECTION 4: First aid measures**4.1 Description of first aid measures****General advice**

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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Unsuitable extinguishing media

Water Foam

5.2 Special hazards arising from the substance or mixture

Not combustible. Fire may cause evolution of: Hydrogen chloride gas

May not get in touch with: Water

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning upCover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® H⁺, Merck Art. No. 101595). Dispose of properly. Clean up affected area..**6.4 Reference to other sections**

For disposal see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Advice on safe handling**

Keep workplace dry. Do not allow product to come into contact with water.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities**Storage conditions**

Storage conditions

No metal containers. Tightly closed. Never allow product to get in contact with water during storage.

Recommended storage temperature see product label.

Storage class

Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

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7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Ingredients with workplace control parameters****8.2 Exposure control****Appropriat engineering controls**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Personal protective equipment**Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber
Minimum layer thickness: 0,40 mm
Break through time: 480 min
Material tested: Camatril

Splash contact

Material: Latex gloves
Minimum layer thickness: 0,6 mm
Break through time: : 120 min
Material tested: Lapren®

Body Protection

Acid-resistant protective clothing

Respiratory protection

Recommended Filter type: filter E-(P2)
The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains

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SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Appearance	Form: liquid
	Color dark violet
Odour	slight
Odour Threshold	No data available
pH	< 1 at 20 °C (undiluted)
Melting point/freezingpoint	No data available
Initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or	Upper explosion limit: 9,4 %(V)
	Lower explosion limit: 1,6 %(V)
explosive limits	No data available
Vapour pressure	14,3 hPa at 20 °C
Vapour density	No data available
Density	1,21 g/cm ³ at 20 °C
Relative density	No data available
Water solubility	at 25 °C soluble
Partition coefficient: octanol/water	No data available
Auto-ignition temperature	The substance or mixture is not classified as pyrophoric.
Decomposition temperature	No data available
Viscosity	Viscosity, kinematic: No data available
	Viscosity, dynamic: No data available
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity**10.1 Reactivity**

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Risk of explosion with: Alkali metals conc. sulfuric acid

Risk of ignition or formation of inflammable gases or vapours with: Carbides lithium silicide Fluorine

Generates dangerous gases or fumes in contact with: Aluminum hydrides Formaldehyde Metals strong alkalis Sulfides

Exothermic reaction with: Amines potassium permanganate salts of oxyhalogenic acids semimetallic oxides semimetallic hydrogen compounds Aldehydes vinylmethyl ether

Violent reactions possible with: The generally known reaction partners of water.

10.4 Conditions to avoid

no information available

Moisture.

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10.5 Incompatible materials

Metals, metal alloys, (generation of hydrogen)Metals

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract Dermal: No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

Remarks: Mixture causes serious eye damage.

Risk of blindness!

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Mixture may cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

Endocrine disrupting properties

Product: Assessment :

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Repeated dose toxicity - Rat - male and female - Oral - 24 Months - NOAEL (No observed adverse effect level) - 15 mg/kg Remarks: (ECHA)

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Components

Titanium(III) chloride

Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Test Type: mitotic recombination assay

Test system: Bacillus subtilis

Result: negative

Test Type: sister chromatid exchange assay

Test system: mammalian cells

Result: negative

Test Type: Ames test

Test system: Escherichia coli

Result: negative

Test Type: Ames test

Test system: Salmonella typhimurium

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Hydrochloric Acid

Acute toxicity

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach. Inhalation: Cough Difficulty in breathing Symptoms: mucosal irritations, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in the respiratory tract., Possible damages:, damage of respiratory tract, tissue damage Dermal: No data available

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Skin corrosion/irritation
Skin - reconstructed human epidermis (RhE)
Result: Corrosive (OECD Test Guideline 431)

Serious eye damage/eye irritation
Eyes - Bovine cornea

Result: Causes serious eye damage. - 10 min (OECD Test Guideline 437)

Respiratory or skin sensitization
Maximization Test - Guinea pig

SECTION 12: Ecological information

12.1 Toxicity

Mixture
No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Biological effects:
Harmful effect due to pH shift.
Does not cause biological oxygen deficit. Discharge into the environment must be avoided.

Components

Titanium(III) chloride

Toxicity to fish(Chronic toxicity)

LC50 - Oncorhynchus mykiss (rainbow trout) - 7,31 mg/l - 28 d Hydrochloric Acid

Toxicity to fish

LC50 - Gambusia affinis (Mosquito fish) - 282 mg/l - 96 h Remarks: (IUCLID)

Endocrine disrupting properties

Product:

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 13: Disposal considerations

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13.1 Waste treatment methods

No data available

SECTION 14: Transport information**14.1 UN number**

ADR/RID: 3264

IMDG: 3264

IATA: 3264

14.2 UN proper shipping name

ADR/RID: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrochloric acid, Titanium trichloride)

IMDG: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrochloric acid, Titanium trichloride)

IATA: Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric acid, Titanium trichloride)

14.3 Transport hazard class(es)

ADR/RID: 8

IMDG: 8

IATA: 8

14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user**Further information**

No data available

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information**Full text of H-Statements referred to under sections 2 and 3.**

H250 Catches fire spontaneously if exposed to air.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

EUH014 Reacts violently with water.

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 0

Reactivity: 0

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Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Labotiq shall not be held liable for any damage resulting from handling or from contact with the above product.

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