



Safety Data Sheet

Tris(hydroxymethyl)aminomethanehydrochloride

Section 1: Chemical Product and Company Identification

Product Name:

Tris(hydroxymethyl)aminomethanehydrochloride

Catalog Codes: 508

CAS#: 1185-53-1

RTECS: No data available

Synonym: Tris HCl, Tromethane hydrochloride

Chemical Name:

Tris(hydroxymethyl)aminomethanehydrochloride

Chemical Formula: C₄H₁₁NO₃ · HCl

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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Tris(hydroxymethyl)aminomethanehydrochloride	1185-53-1	100

Toxicological Data on Ingredients: LD50 Oral - Rat - female - > 5.000 mg/kg.

Section 3: Hazards Identification

Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

Label elements

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

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.

Section 4: First Aid Measures

Description of first-aid measures

If inhaled

After inhalation: fresh air.

In case of skin contact

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

In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 3) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

Section 5: Fire and Explosion Data

Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Carbon oxides

Nitrogen oxides (NO_x)

Hydrogen chloride gas

Combustible.

Development of hazardous combustion gases or vapours possible in the event of fire.

Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

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

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

Reference to other sections

For disposal see section 13.

Section 7: Handling and Storage

Precautions for safe handling

For precautions see section 3.

Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry.

Hygroscopic.

Section 8: Exposure Controls/Personal Protection

Control parameters

Ingredients with workplace control parameters

Exposure controls

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). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de)
Full contact

Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 480 min
Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact

Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 480 min
Material tested:KCL 741 Dermatril® L

Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P1

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.

Section 9: Physical and Chemical Properties

Information on basic physical and chemical properties

a) Appearance	Form: crystalline Color: white
b) Odor	odorless
c) Odor Threshold	Not applicable
d) pH	4,2 at 100 g/l at 20 °C
e) Melting point/freezing point Guideline 102	Melting point: ca.150,7 °C at ca.1.013 hPa - OECD Test
f) Initial boiling point and boiling range	No data available

g) Flash point	Not applicable
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Relative density	No data available
n) Water solubility	ca.561 g/l at 20 °C - OECD Test Guideline 105- soluble
o) Partition coefficient:	log Pow: ca.-3,6 at 20 °C - OECD Test Guideline 107 - n-octanol/water Bioaccumulation is not expected.
p) Autoignition temperature	No data available
q) Decomposition temperature	ca.230 °C –
r) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available
Other safety information	
Surface tension ca.61,4 mN/m at 1,001g/l at 20 °C - OECD Test Guideline 115	

Section 10: Stability and Reactivity Data

Reactivity

Risk of dust explosion.

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

Chemical stability

hygroscopic

The product is chemically stable under standard ambient conditions (room temperature).

Possibility of hazardous reactions

Violent reactions possible with:
Strong oxidizing agents

Conditions to avoid

Exposure to moisture.
no information available

Incompatible materials

No data available

Hazardous decomposition products

In the event of fire: see section 5

Section 11: Toxicological Information**Information on toxicological effects****Acute toxicity**

LD50 Oral - Rat - female - > 5.000 mg/kg
(OECD Test Guideline 425)
Inhalation: No data available
LD50 Dermal - Rat - male and female - > 5.000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE)
Result: No skin irritation
(OECD Test Guideline 439)

Serious eye damage/eye irritation

Eyes - Bovine cornea
Result: No eye irritation - 4 h
(OECD Test Guideline 437)

Respiratory or skin sensitization

Maximization Test - Guinea pig
Result: negative
(OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster lung cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

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

Additional Information

Repeated dose toxicity - Rat - male and female - Oral - NOAEL (No observed adverse effect level) - > 1.000 mg/kg

irritant effects

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12: Ecological Information

Toxicity

Toxicity to fish

static test LC50 - Leuciscus idus (Golden orfe) - 460 mg/l - 96 h
(OECD Test Guideline 203)

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances:

Tris(hydroxymethyl)aminomethane

Toxicity to daphnia
and other aquatic
invertebrates

static test EC50 - Daphnia magna (Water flea) - > 117 mg/l - 48 h
(OECD Test Guideline 202)

Toxicity to bacteria

static test EC50 - activated sludge - > 1.000 mg/l - 3 h
(OECD Test Guideline 209)

Persistence and degradability

Biodegradability aerobic - Exposure time 28 d
Result: 97,1 % - Readily biodegradable.
(OECD Test Guideline 301F)

Bioaccumulative potential

No data available

Mobility in soil

No data available

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.

Other adverse effects

No data available

Section 13: Disposal Considerations

Waste treatment methods

Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself

Section 14: Transport Information

UN number

ADR/RID: -

IMDG: -

IATA: -

UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

Packaging group

ADR/RID: -

IMDG: -

IATA: -

Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

Special precautions for user**Further information**

Not classified as dangerous in the meaning of transport regulations.

Section 15: Other Regulatory Information**Safety, health and environmental regulations/legislation specific for the substance or mixture**

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

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

Section 16: Other Information

References: Not available

Other Special Considerations: Not available

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