

Revision Date 30-Apr-2012

Revision Number 2

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Description: 3,3',5,5'-Tetramethylbenzidine dihydrochloride hydrate
Cat No. 229990000; 229990010
Synonyms TMB dihydrochloride hydrate

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

Recommended Use Laboratory chemicals
Uses advised against No Information available

Details of the supplier of the safety data sheet

Company

Acros Organics BVBA
 Janssen Pharmaceuticaaan 3a
 2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

Emergency Telephone Number

For information in the US, call: 001-800-ACROS-01
 For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99
 Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300
 CHEMTREC Phone Number, Europe: 001-703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Acute Inhalation Toxicity - Dusts and Mists	Category 4
Germ Cell Mutagenicity	Category 2
Specific target organ systemic toxicity (single exposure)	Category 2

Classification according to EU Directives 67/548/EEC or 1999/45/EC

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

Symbol(s) Xn - Harmful
R-phrases R68 - Possible risk of irreversible effects
Risk Combination Phrases R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed

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SECTION 2. HAZARDS IDENTIFICATION
Label Elements

Signal Word
Warning
Hazard Statements

H371 - May cause damage to organs
H312 - Harmful in contact with skin
H341 - Suspected of causing genetic defects
H332 - Harmful if inhaled
H302 - Harmful if swallowed

Precautionary Statements - EU (§28, 1272/2008)

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
P281 - Use personal protective equipment as required
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

Other Hazards

No information available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	EC-No.	Weight %	CAS-No	67/548/EEC Classification	CLP Classification - Regulation (EC) No 1272/2008	REACH No.
3,3',5,5'-Tetramethylbenzidine dihydrochloride hydrate 207738-08-7		> 98	207738-08-7	Xn; R20/21/22 Muta. Cat. 3; R68	Muta. 2 (H341) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332)	-

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

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SECTION 4. FIRST AID MEASURES**Description of first aid measures****Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Obtain medical attention.

Ingestion

Clean mouth with water. Get medical attention.

Inhalation

Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Obtain medical attention.

Notes to Physician

Treat symptomatically

SECTION 5. FIRE-FIGHTING MEASURES**Extinguishing media****Suitable Extinguishing Media**

Water spray. Carbon dioxide (CO₂). Dry chemical. chemical foam.

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors

Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

Environmental precautions

Prevent further leakage or spillage if safe to do so

Methods and material for containment and cleaning up

Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Do not let this chemical enter the environment.

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SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid contact with skin and eyes. Do not breathe dust. Do not breathe vapors or spray mist. Do not ingest.

Conditions for safe storage, including any incompatibilities

Keep in a dry place. Keep container tightly closed. Keep refrigerated.

Specific End Uses

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

Exposure controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas

Personal protective equipment

Eye Protection

Goggles

Hand Protection

Protective gloves

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls

No information available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State

Powder, Solid

Appearance

Off-white

odor

odorless

pH

No information available.

Boiling Point/Range

No information available.

Melting Point/Range

300°C / 572°F

Flash Point

No information available.

Autoignition Temperature

No information available.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Water Solubility	moderately soluble
Molecular Formula	C ₁₆ H ₂₀ N ₂ . 2 H Cl . x H ₂ O
Molecular Weight	313.26

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Chemical Stability

Stable under normal conditions. Moisture sensitive.

Possibility of Hazardous Reactions

Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions .	No information available.

Conditions to Avoid

Exposure to air, Exposure to light, Incompatible products, Exposure to moist air or water.

Incompatible Materials

Strong oxidizing agents.

Hazardous Decomposition Products

Hydrogen chloride gas. Nitrogen oxides (NO_x). Carbon monoxide (CO). Carbon dioxide (CO₂).

SECTION 11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute Toxicity

Product Information	No acute toxicity information is available for this product
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Component Information

Chronic Toxicity

Carcinogenicity	There are no known carcinogenic chemicals in this product
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Sensitization

Mutagenic Effects	No information available. Substances which cause concern for man owing to possible mutagenic effects but for which the available information is not adequate for making a satisfactory assessment
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Reproductive Effects	No information available.
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SECTION 11. TOXICOLOGICAL INFORMATION

Developmental Effects	No information available.
Target Organs	No information available.
Other Adverse Effects	The toxicological properties have not been fully investigated.
Endocrine Disruptor Information	None known

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity effects Do not empty into drains

Persistence and degradability

No information available

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Results of PBT and vPvB assessment

Other adverse effects

No information available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues / Unused Products Dispose of in accordance with local regulations

Contaminated Packaging Empty containers should be taken to local recyclers for disposal

SECTION 14. TRANSPORT INFORMATION

IMDG/IMO

UN-No	2811
Hazard Class	6.1
Packing Group	III
Proper Shipping Name	TOXIC SOLID, ORGANIC, N.O.S.

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SECTION 14. TRANSPORT INFORMATION

ADR

UN-No	2811
Hazard Class	6.1
Packing Group	III
Proper Shipping Name	TOXIC SOLID, ORGANIC, N.O.S.

IATA

UN-No	2811
Hazard Class	6.1
Packing Group	III
Proper Shipping Name	TOXIC SOLID, ORGANIC, N.O.S.*

SECTION 15. REGULATORY INFORMATION

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

International Inventories

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japan Existing and New Chemical Substances

CHINA - China Inventory of Existing Chemical Substances

AICS - Inventory of Chemical Substances

KECL - Existing and Evaluated Chemical Substances

Chemical Safety Assessment

SECTION 16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3

R68 - Possible risk of irreversible effects

R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed

3,3",5,5"-Tetramethylbenzidine dihydrochloride hydrate**Revision Date 30-Apr-2012****SECTION 16. OTHER INFORMATION****Revision Date** 30-Apr-2012**Revision Summary****Reason for revision** Not applicable**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006****Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet