

MATERIAL SAFETY DATA SHEET

TMT 15®



Material no.		Version	3.1 / US
Specification	101001	Revision date	10/04/2011
Order Number		Print Date	11/15/2011
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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product information

Trade name : TMT 15®
Use of the Substance / : For industrial use
Preparation
Function : Precipitant

Company : Evonik Degussa Corporation
USA
299 Jefferson Road
Parsippany, NJ 07054-0677
USA

Telephone : 973-929-8000
Telefax : 973-929-8040

US: CHEMTREC EMERGENCY NUMBER : 800-424-9300

CANADA: CANUTEC EMERGENCY NUMBER : 613-996-6666

Product Regulatory Services : 973-929-8060

2. HAZARDS IDENTIFICATION

*** EMERGENCY OVERVIEW ***

Form-liquid **Color-colourless to yellowish** **Odor-almost odourless**

Irritating to eyes.

Eye contact

irritating

Skin Contact

Slightly irritating.

Inhalation

No hazard expected in normal use.

Ingestion

No hazard expected in normal use.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

Aqueous preparation

Content min. 15 %

The preparation contains:

Information on ingredients / Hazardous components

1,3,5-triazine-2,4,6(1H,3H,5H)-trithione, trisodium salt	
CAS-No.	17766-26-6
Percent (Wt./ Wt.)	15 %

Other information

This material is classified as hazardous under OSHA regulations.

4. FIRST AID MEASURES

General advice

Pay attention to self-protection.

Remove victims from hazardous area. Immediately remove soiled or soaked clothing and remove it to a safe distance. Keep victim warm, in a stabilized position and covered.

Do not leave victims unattended.

If the casualty is unconscious: Place the victim in the recovery position.

Inhalation

Potential for exposure by inhalation if aerosols or mists are generated.

Move victims into fresh air.

With labored breathing: Provide with oxygen. Consult a doctor.

If the casualty is not breathing: Perform mouth-to-mouth resuscitation, notify emergency physician immediately.

Skin contact

Wash off affected area immediately with plenty of water for at least 15 minutes.

If symptoms persist, consult a physician for treatment.

Eye contact

With eye held open, thoroughly rinse immediately with plenty of water for at least 10 minutes.

Consult an ophthalmologist immediately if the symptoms persist.

Ingestion

Rinse out mouth.

Immediately give large quantities of water to drink.

Consult a physician immediately.

Notes to physician

The initial focus is only on the local action, possibly characterized by a progressive tissue irritation.

In the eye, irritating liquids cause, depending on the intensity of exposure, irritation of the conjunctiva and, in exceptional cases, damage to the cornea.

There is a danger of blindness if corneas are damaged!

Superficial irritations and only infrequent damage with ulcerations develop on the skin.

An irritation of the mucous membranes may develop and lead to coughing after inhalation.

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5. FIRE-FIGHTING MEASURES

Flash point	does not flash
Lower explosion limit	No data available
Upper explosion limit	No data available
Autoignition temperature	not applicable

Suitable extinguishing media

water, mist, quenching powder, foam

Extinguishing media which must not be used for safety reasons

None known

Specific hazards during fire fighting

In the case of fire, the following hazardous smoke fumes may be produced: nitric oxides, sulphur oxides.

Special protective equipment for fire-fighters

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

Further information

Standard procedure for chemical fires.

Ensure there are sufficient retaining facilities for water used to extinguish fire. Water used to extinguish fire should not enter drainage systems, soil or stretches of water. Contaminated fire-extinguishing water must be disposed of in accordance with the regulations issued by the appropriate local authorities. Fire residues should be disposed of in accordance with the regulations.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear personal protective equipment; see section 8.

Environmental precautions

Observe regulations on prevention of water pollution (collect, dam up, cover up).

Do not allow the product into the following compartments:

surface water
stretches of water

Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, rivers, groundwater or soil.

Methods for cleaning up

Absorb with liquid-binding material (e.g. inert absorbent or universal binder).

Dispose of absorbed material in accordance with the regulations.

see section 13.

Rinse away any residue with plenty of water.

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Additional advice

Isolate and seal off defective containers immediately.

7. HANDLING AND STORAGE

Handling

Safe handling advice

Handle in accordance with good industrial hygiene and safety practices.

Avoid contact with skin and eyes.

Wear personal protective equipment.

For personal protection see section 8.

Immediately change moistened and saturated work clothes.

No eating, drinking, smoking, or snuffing tobacco at work.

Wash hands before breaks and at the end of workday.
preventive skin protection

Advice on protection against fire and explosion

The product is not combustible.

Storage

Requirements for storage areas and containers

clean, dry.

Use shatterproof containers.

Protect from frost.

Transport and store container in upright position only.

Always close container tightly after removal of product.

Further information

Use by date of the product: min. 2 years.

Use alkali-resistant materials.

Advice on common storage

Store away from: oxidizing agents, acids.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Remarks	No substance-specific limiting value being known.
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Component occupational exposure guidelines

Engineering measures

No dangerous reactions are known to occur with correct handling and storage.

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Personal protective equipment

Respiratory protection

A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

Hand protection

Applies to handling for brief periods or of small amounts

Glove material	Nitrile, for example, Dermatril P 743, Kächele-Cama Latex GmbH (KCL), Germany
Material thickness	0.20 mm
Break through time	> 480 min
Method	DIN EN 374

Applies to handling for longer periods or of large amounts

Glove material	Chloroprene, for example: Camapren 720, Kächele-Cama Latex GmbH (KCL), Germany
Material thickness	0.65 mm
Break through time	> 480 min
Method	DIN EN 374

The above mentioned hand protection is based on knowledge of the chemistry and anticipated uses of this product but it may not be appropriate for all workplaces. A hazard assessment should be conducted prior to use to ensure suitability of gloves for specific work environments and processes prior to use.

Eye protection

wear basket-shaped glasses or safety goggles with side-shields.

Skin and body protection

A safety shower and eye wash fountain should be readily available.

To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product.

Hygiene measures

No eating, drinking, smoking, or snuffing tobacco at work.
Wash face and/or hands before break and end of work.
Avoid contaminating clothes with product.
Immediately change moistened and saturated work clothes.

Protective measures

Avoid contact with skin and eyes.
Handle in accordance with good industrial hygiene and safety practices.
Wear suitable protective clothing, gloves and eye/face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid
Color	colourless to yellowish
Odor	almost odourless

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Safety data

pH	ca. 12.3	(22.5 °C)
Melting point/range	-3 °C	
Boiling point/range	101 °C	
Flash point	does not flash	
Flammability	not applicable	
Autoignition temperature:	not applicable	
Autoinflammability	not spontaneously flammable	
Explosiveness	not applicable	
Lower explosion limit	No data available	
Upper explosion limit	No data available	
Vapor pressure	22 mbar	(20 °C)
Density	ca. 1.12 g/cm3	(20 °C)
Relative density	No data available	
Water solubility	No data available	
Partition coefficient (n-octanol/water)	log Pow: < -2 Method: (calculated)	
Viscosity, dynamic	1.6 mPa.s	(20 °C)
conductivity	ca. 60 mS/cm	(22 °C)
Molecular Weight	243.22 g/Mol	

Further information

Miscibility in water	completely miscible
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10. STABILITY AND REACTIVITY

Conditions to avoid	frost.
Materials to avoid	strong oxidant, acids.
Hazardous decomposition products	None known

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Thermal decomposition	> 370 °C solid No decomposition if stored and applied as directed.
Hazardous reactions	No dangerous reactions are known to occur with correct handling and storage. product is stable.

11. TOXICOLOGICAL INFORMATION

Product Acute oral toxicity	LD50 Rat: 7878 mg/kg Method: analogy OECD-method related to substance: TMT (15%)
Product Acute inhalation toxicity	No data available
Product Acute dermal toxicity	LD50 Rat: > 2000 mg/kg Method: OECD Test Guideline 402 related to substance: TMT (55%) LD50 Rat: 7333 mg/kg (calculated based on TMT 55%) related to substance: TMT (15%)
Product Skin irritation	Rabbit / 4 h slightly irritating Method: OECD Test Guideline 404 related to substance: TMT (55%)
Product Eye irritation	Rabbit irritant Method: OECD Test Guideline 405 related to substance: TMT (55%)
Product Sensitization	maximization test guinea pig: not sensitizing Method: OECD Test Guideline 406 related to substance: TMT (55%)
Product Repeated dose toxicity	Oral Rat Testing period: 30 d NOAEL: 526 mg/kg target organ/effect: Erythrocytes Method: OECD Test Guideline 407 related to substance: TMT (55%) Oral Rat Testing period: 30 d NOAEL: 1929 mg/kg target organ/effect: Erythrocytes (calculated based on TMT 55%) related to substance: TMT (15%)

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Product	Gentoxicity in vitro	Ames test <i>S. typhimurium</i> / <i>E. coli</i> negative Method: analogy OECD-method related to substance: TMT (15%)
Product	Gentoxicity in vivo	Micronucleus test mouse Oral negative Method: OECD TG 474 related to substance: TMT (15%)
Product	Carcinogenicity	No data available
Product	Toxicity to reproduction	No data available
Product	Human experience	To date handling this product has not been known to cause any detrimental effects.

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradability

aerobic
inoculum: Activated sludge
Not readily biodegradable.
0 %
Exposure time: 28 d
Method: OECD TG 302 B
related to substance: TMT (15%)

anaerobic
inoculum: Activated sludge
Not readily biodegradable.
0 %
Exposure time: 60 d
Method: CO2 Evolution Test
related to substance: TMT (15%)

Ecotoxicity effects

Toxicity to fish

LC0 static test *Leuciscus idus melanotus*: 1000 mg/l / 96 h
Analytical monitoring: no
Method: DIN 38412 Teil 15
related to substance: TMT (acid form)

LC0 static test *Leuciscus idus melanotus*: 9147 mg/l / 96 h
(calculated based on acid form)
related to substance: TMT (15%)

LC0 static test *Leuciscus idus melanotus*: 1500 mg/l / 48 h
Analytical monitoring: no
Method: DIN 38412 Teil 15

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related to substance: TMT (acid form)

LC0 static test *Leuciscus idus melanotus*: 13720 mg/l / 48 h
(calculated based on acid form)

related to substance: TMT (15%)

LC50 semi-static test *Brachydanio rerio*: > 560 - 1000 mg/l / 96 h

Analytical monitoring: no

Method: OECD TG 203

Noxious effect due to pH shift

pH: 8 - 11

related to substance: TMT (60%)

LC50 semi-static test *Brachydanio rerio*: 2240 - 4000 mg/l / 96 h

Noxious effect due to pH shift

pH: 8 - 11

(Calculated from TMT 60%).

related to substance: TMT (15%)

LC50 static test *Pimephales promelas* (fathead minnow): 190.1 mg/l / 96 h

Analytical monitoring: yes

Method: ASTM

related to substance: TMT (15%)

Toxicity to daphnia

EC50 *Daphnia magna*: 38 mg/l / 48 h

Method: OECD TG 202

related to substance: TMT (acid form)

EC50 *Daphnia magna*: 253 mg/l / 48 h

(calculated based on acid form)

related to substance: TMT (15%)

Toxicity to algae

IC 50 *scenedesmus subspicatus*: 273 mg/l / 72 h

End point: Biomass

Analytical monitoring: no

Method: OECD 201

related to substance: TMT (15%)

Toxicity to bacteria

EC50 Activated sludge: 1036 mg/l / 3 h

Analytical monitoring: no

Method: DEV L3 (TTC test)

related to substance: TMT (60%)

EC50 Activated sludge: 4144 mg/l / 3 h

(Calculated from TMT 60%).

related to substance: TMT (15%)

Further information on ecology

Chemical Oxygen Demand (COD) 139800 mg/l

Method: DEV H 41

related to substance: TMT (15%)

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Biochemical Oxygen Demand
(BOD)

0 mg/g

Concentration: 16 mg/l (BOD5)

Method: DEV H5/a2 (dilution method)

related to substance: TMT (60%)

0 mg/g

Concentration: 64 mg/l (BOD5)

(Calculated from TMT 60%).

related to substance: TMT (15%)

AOX

The product does not contain any organically bonded halogen.

General Ecological Information

Does not contain any heavy metals and compounds from EC directive 76/464

Is adsorbed to activated sludge

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

Advice on disposal

Waste must be disposed of in accordance with local, state, provincial and federal laws and regulations. Empty containers must be handled with care due to product residue.

14. TRANSPORT INFORMATION

Transport/further information

Not dangerous according to transport regulations.

15. REGULATORY INFORMATION

Information on ingredients / Non-hazardous components

This product contains the following non-hazardous components

Water

CAS-No.

7732-18-5

Percent (Wt./ Wt.)

85 %

US Federal Regulations

OSHA

If listed below, chemical specific standards apply to the product or components:

- None listed

Clean Air Act Section (112)

If listed below, components present at or above the de minimus level are hazardous air pollutants:

- None listed

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CERCLA Reportable Quantities

If listed below, a reportable quantity (RQ) applies to the product based on the percent of the named component:

- None listed

SARA Title III Section 311/312 Hazard Categories

The product meets the criteria only for the listed hazard classes:

- Acute Health Hazard

SARA Title III Section 313 Reportable Substances

If listed below, components are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

- None listed

Toxic Substances Control Act (TSCA)

If listed below, non-proprietary substances are subject to export notification under Section 12 (b) of TSCA:

- None listed

State Regulations

California Proposition 65

A warning under the California Drinking Water Act is required only if listed below:

- None listed

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International Chemical Inventory Status

Unless otherwise noted, this product is in compliance with the inventory listing of the countries shown below. For information on listing for countries not shown, contact the Product Regulatory Services Department.

• Europe (EINECS/ELINCS)	Listed/registered
• USA (TSCA)	Listed/registered
• Canada (DSL)	Listed/registered
• Australia (AICS)	Listed/registered
• Japan (MITI)	Listed/registered
• Korea (TCCL)	Listed/registered
• Philippines (PICCS)	Listed/registered
• China	Listed/registered

16. OTHER INFORMATION

HMIS Ratings

Health :	2
Flammability :	0
Physical Hazard :	0

Further information

Data for the production of the safety data sheet from the studies available and from the literature. Further information about the characteristics of the product can be found in the product code of practice or in the Product-Brochure .

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.