

SAFETY DATA SHEET

Thioflavin T, High Purity Grade

SECTION 1: Identification

1.1. Product identifier

Trade name

Thioflavin T, High Purity Grade

Other names / Synonyms

80033: Thioflavin T, High Purity Grade, 100 mg

Product no.

80033

Other means of identification

CAS No.: 2390-54-7

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

Relevant identified uses of the substance or mixture

Use as laboratory reagent. For research use only. Not for food, drug, household, or cosmetic use.
Restricted to professional and industrial use.

Uses advised against

None known.

1.3. Details of the supplier of the safety data sheet

Company and address

Biotium, Inc.

46117 Landing Parkway

CA 94538 Fremont

USA

T: +1 510-265-1027

Fax: +1 510-265-1352

<http://www.biotium.com>

E-mail

techsupport@biotium.com

SDS date

12/3/2025

SDS Version

1.0

1.4. Emergency telephone number

Contact the poison control at 1-800-222-1222 (24/7) or use the webPOISONCONTROL® (triage.webpoisoncontrol.org) to get specific guidance for your case
See also section 4 "First aid measures".

SECTION 2: Hazard(s) identification

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

2.1. Classification of the substance or mixture

Acute Tox. 3; H301, Toxic if swallowed.

Skin Sens. 1; H317, May cause an allergic skin reaction.

Eye Dam. 1; H318, Causes serious eye damage.

2.2. Label elements

Hazard pictogram(s)



Signal word

Danger

Hazard statement(s)

Toxic if swallowed. (H301)

May cause an allergic skin reaction. (H317)

Causes serious eye damage. (H318)

Precautionary statement(s)

General

Not applicable.

Prevention

Avoid breathing dust. (P261)

Wash hands and exposed skin thoroughly after handling. (P264)

Contaminated work clothing should not be allowed out of the workplace. (P272)

Wear eye protection/face protection/protective gloves. (P280)

Response

IF SWALLOWED: Immediately call a POISON CENTER/doctor. (P301+P310)

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

Continue rinsing. (P305+P351+P338)

Immediately call a POISON CENTER/doctor. (P310)

Specific treatment (see instructions on this label). (P321)

Rinse mouth. (P330)

If skin irritation or rash occurs: Get medical advice/attention. (P333+P313)

Take off contaminated clothing and wash it before reuse. (P362+P364)

Storage

Not applicable.

Disposal

Dispose of contents/container in accordance with local regulation.
(P501)

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Product/substance	Identifiers	% w/w	Classification	Note
2-[4-(dimethylamino)phenyl]-3,6-dimethylbenzothiazolium chloride	CAS No.: 2390-54-7	95-100%	Acute Tox. 3, H301 Skin Sens. 1, H317 Eye Dam. 1, H318	

3.2. Mixtures

Not applicable. This product is a substance.

Where the concentration of an ingredient is expressed as a range the exact concentration has been withheld as a trade secret.

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

Other information

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No ingredients present at concentrations classified as harmful to health or the environment.

SECTION 4: First-aid measures

4.1. Description of first aid measures

General information

If breathing is irregular, drowsiness, loss of consciousness or cramps: Call 911 and give immediate treatment (first aid).

Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

Inhalation

Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.

Skin contact

Remove contaminated clothing and shoes immediately. Ensure to wash exposed skin thoroughly with water and soap. Skin cleanser can be used. DO NOT use solvents or thinners.

If skin irritation occurs: Get medical advice/attention.

Eye contact

If in eyes: Flush eyes with plenty of water or salt water (20-30 °C) for at least 30 minutes and continue until irritation stops. Remove contact lenses. Make sure you flush under the upper and lower eyelids. Seek medical assistance immediately and continue flushing during transport.

Ingestion

In the case of ingestion, contact a doctor immediately. If the person is conscious, give them water. DO NOT try to induce vomiting unless this is recommended by a doctor. Hold head facing down to prevent vomit from returning to the mouth and throat. Prevent shock by keeping the injured person warm and calm. Initiate immediate resuscitation if breathing stops. If unconscious, roll the injured person into recovery position. Call an ambulance.

Burns

Not applicable.

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

Sensitisation: This product contains substances, which may trigger allergic reaction upon dermal contact.

Manifestation of allergic reactions typically takes place within 12-72 hours after exposure.

The product contains substances that cause serious eye damage. Contact with these substances can cause irreversible effects on the eye / serious eye damage.

4.3. Indication of any immediate medical attention and special treatment needed

IF exposed or concerned:

Get immediate medical advice/attention.

Information to medics

Bring this safety data sheet or the label from this product.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.

Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

5.2. Special hazards arising from the substance or mixture

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.

If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:

Halogenated compounds

Sulphur oxides

Nitrogen oxides (NO_x)

Carbon oxides (CO / CO₂)

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact the Poison Help Line on 1-800-222-1222 (24/7) in order to obtain further advice.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid direct contact with spilled substances.
Contaminated areas may be slippery.

6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc.
Keep unauthorized persons away from the spill

6.3. Methods and material for containment and cleaning up

Limit spillage, sweep up and shovel into appropriate containers for disposal. Store in suitable, closed containers for disposal.

Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

6.4. Reference to other sections

See section 13 "Disposal considerations" on handling of waste.
See section 8 "Exposure controls/personal protection" for protective measures.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid direct contact with the product.
Smoking, drinking and consumption of food is not allowed in the work area.
See section 8 "Exposure controls/personal protection" for information on personal protection.

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. A sign warning of toxic materials shall be affixed the room and cupboard containing the product(s).

Recommended storage material

Always store in containers of the same material as the original container.

Storage conditions

Refrigerator 2°C to 8°C.
Protect from light.
Desiccate.
Keep container tightly closed in a dry and well-ventilated place.

Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No substances are listed with a permissible exposure limit (ref: 29 CFR 1910.1000 TABLE Z-1)

8.2. Exposure controls

Apply general control to prevent unnecessary exposure

General recommendations

Smoking, drinking and consumption of food is not allowed in the work area.

Exposure scenarios

There are no exposure scenarios implemented for this product.

Exposure limits

Occupational exposure limits have not been defined for the substances in this product.

Appropriate technical measures

Apply standard precautions during use of the product. Avoid inhalation of gas or dust.
Ensure that eyewash stations and safety showers are located within easy reach.

Hygiene measures

In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Pay special attention to hands, forearms and face.

Measures to avoid environmental exposure

Keep damming materials near the workplace. If possible, collect spillage during work.


Individual protection measures, such as personal protective equipment

Generally

Use only protective equipment with a recognized certification mark, e.g. the UL mark.

Respiratory Equipment

Type	Class	Colour	Standards
Not required; except in case of aerosol formation.			N/A



Skin protection

No specific requirements.


Hand protection

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards
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.			



Eye protection

Type	Standards
Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).	EN166



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Solid

Color

No data available.

Odor

No data available.

Odor threshold (ppm)

No data available.

pH

No data available.

Density (g/cm³)

No data available.

Kinematic viscosity

Does not apply to solids.

Particle characteristics

No data available.

Phase changes**Melting point/freezing point (°F)**

No data available.

Softening point/range (°F)

Does not apply to solids.

Boiling point (°F)

Does not apply to solids.

Vapor pressure

No data available.

Relative vapor density

Does not apply to solids.

Decomposition temperature (°F)

No data available.

Data on fire and explosion hazards**Flash point (°F)**

Does not apply to solids.

Flammability (°F)

No data available.

Auto-ignition temperature (°F)

No data available.

Explosion limits (% v/v)

Does not apply to solids.

Solubility**Solubility in water**

No data available.

n-octanol/water coefficient (LogKow)

No data available.

Solubility in fat (g/L)

No data available.

9.2. Other information**Other physical and chemical parameters**

No data available.

Oxidizing properties

No data available.

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

No data available.

10.2. Chemical stability

The product is stable under the conditions, noted in section 7 "Handling and storage".

10.3. Possibility of hazardous reactions, including those associated with foreseeable emergencies

None known.

10.4. Conditions to avoid

Heat, flames and sparks.

10.5. Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing 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

Toxic if swallowed.

Skin corrosion/irritation

Based on available data for the mixture, the classification criteria are not met.

Serious eye damage/irritation

Causes serious eye damage.

Respiratory sensitisation

Based on available data for the mixture, the classification criteria are not met.

Skin sensitisation

May cause an allergic skin reaction.

Germ cell mutagenicity

Based on available data for the mixture, the classification criteria are not met.

Carcinogenicity

Based on available data for the mixture, the classification criteria are not met.

Reproductive toxicity

Based on available data for the mixture, the classification criteria are not met.

STOT-single exposure

Based on available data for the mixture, the classification criteria are not met.

STOT-repeated exposure

Based on available data for the mixture, the classification criteria are not met.

Aspiration hazard

Based on available data for the mixture, the classification criteria are not met.

Long term effects

The product contains substances that cause serious eye damage. Contact with these substances can cause irreversible effects on the eye / serious eye damage.

Other information

None known.

SECTION 12: Ecological information

12.1. Toxicity

Based on available data for the mixture, the classification criteria are not met.

12.2. Persistence and degradability

Based on available data for the mixture, the classification criteria are not met.

12.3. Bioaccumulative potential

Based on available data for the mixture, the classification criteria are not met.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

12.6. Other adverse effects

None known.

SECTION 13: Disposal considerations

RCRA Hazardous waste ("P" and "U" list) (40 CFR 261)




None of the components are listed

[Specific labelling](#)

[Contaminated packing](#)

Packaging containing residues of the product must be disposed of similarly to the product.

SECTION 14: Transport information

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other informatio n:
DOT	UN2811	TOXIC SOLID, ORGANIC, N.O.S.	Transport hazard class: 6.1 Label: 6.1 Classification code: T2 	III	No	Limited quantities: 5 kg Tunnel restriction code: (E) See below for additional information.
IMDG	UN2811	TOXIC SOLID, ORGANIC, N.O.S.	Transport hazard class: 6.1 Label: 6.1 Classification code: T2 	III	No	Limited quantities: 5 kg EmS: F-A S-A See below for additional information.
IATA	UN2811	TOXIC SOLID, ORGANIC, N.O.S.	Transport hazard class: 6.1 Label: 6.1 Classification code: T2 	III	No	See below for additional information.

* Packing group

** Environmental hazards

[Additional information](#)

This product is within scope of the regulations of transport of dangerous goods.

DOT / See § 172.101 Hazardous Materials Table for any information on special provisions, requirements, or warnings in connection with transport. See § 172.602, for instructions in writing regarding mitigation of damages in relation to incidents or accidents during transport.

IMDG / See section 3.2.1, for any information on special provisions, requirements, or warnings in connection with transport.

IATA / See Table 4.2 for any information on special provisions, requirements, or warnings in connection with transport.

[14.6. Special precautions for user](#)

Not applicable.

[14.7. Transport in bulk according to IMO instruments](#)

No data available.

SECTION 15: Regulatory information

[15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture](#)

15.2. U.S. Federal regulations

TSCA (the non-confidential portion)

2-[4-(dimethylamino)phenyl]-3,6-dimethylbenzothiazolium chloride is listed

Clean Air Act

None of the components are listed

EPCRA Section 302

None of the components are listed

EPCRA Section 304

None of the components are listed

EPCRA section 313

None of the components are listed

CERCLA

None of the components are listed

Hazardous chemical inventory reporting

This product is subject to Tier II reporting.

State regulations

California / Prop. 65

None of the components are listed

Massachusetts / Right To Know Act

None of the components are listed

New Jersey / Right To Know Act

None of the components are listed

New York / Right To Know Act

None of the components are listed

Pennsylvania / Right To Know Act

None of the components are listed

15.4. Restrictions for application

Restricted to professional and industrial use.

15.5. Demands for specific education

No specific requirements.

15.6. Additional information

Not applicable.

15.7. Chemical safety assessment

No

15.8. Sources

OSHA Hazard Communication Standard (29 CFR 1910.1200)

SECTION 16: Other information

Full text of H-phrases as mentioned in section 3

H301, Toxic if swallowed.

H317, May cause an allergic skin reaction.

H318, Causes serious eye damage.

The full text of identified uses as mentioned in section 1

None known.

Abbreviations and acronyms

ACGIH = American Conference of Governmental Industrial Hygienists

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

CAS = Chemical Abstracts Service

CERCLA = Comprehensive Environmental Response Compensation and Liability Act

DOT = Department of Transportation

EINECS = European Inventory of Existing Commercial chemical Substances
EPCRA = Emergency Planning and Community Right-To-Know Act
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
HCIS = Hazardous Chemical Information System
HNOC = Hazards Not Otherwise Classified
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
NFPA = National Fire Protection Association
NIOSH = National Institute for Occupational Safety and Health
OECD = Organisation for Economic Co-operation and Development
OSHA = Occupational Safety and Health Administration
PBT = Persistent, Bioaccumulative and Toxic
RCRA = Resource Conservation and Recovery Act
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SARA = Superfund Amendments and Reauthorization Act
SCL = A specific concentration limit.
STEL = Short-term exposure limits
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TSCA = The Toxic Substances Control Act
TWA = Time weighted average
UN = United Nations
UVBC = Unknown or variable composition, complex reaction products or of biological materials
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative

Additional information

The classification of the mixture in regard of health hazards is in accordance with the calculation methods given by HCS (29 CFR 1910.1200).

The information provided above is believed to be correct to our best knowledge, but does not purport to be all inclusive, and shall be used only as a guide. This material is sold for research purposes only and is not required to appear on the TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. Biotium shall not be held liable for any damage resulting from handling or contact with the above product.

The safety data sheet is validated by

Julianne Davis

Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a triangle.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.

Country-language: US-en