

MATERIAL SAFETY DATA SHEET
Prepared in accordance with ISO 11014-1 Standard

Printed: 05/10/2011

Revised: 10/21/2010

1 Product and company identification

- **Product details**
- **Trade name: NBT**
- **Application of the substance / the preparation:** Laboratory chemicals
- **Manufacturer/Supplier:**
Fermentas UAB, subsidiary of Thermo Fisher Scientific Inc.
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LT-02241 Vilnius
Lithuania
Tel.: +370 5 2602131
Fax.: +370 5 2602142
- **Further information obtainable from:**
Please visit our site: <http://www.thermoscientific.com/onebio>
Contact us: ts.molbio.eu@thermofisher.com
- **Emergency information:**
For Chemical Emergency (Spill, Leak, Fire, Exposure or Accident),
Call CHEMTREC Day or Night
Domestic North America: 1-800-424-9300
International: 1-703-527-3887 (collect calls accepted)

2 Composition/Information on ingredients

- **Chemical characterization:**
- **CAS No. Description**
298-83-9 5,5'-diphenyl-3,3'-bis(4-nitrophenyl)-2,2'-(3,3'-dimethoxybiphenyl-4,4'-ylene)ditetrazolium dichloride
- **Identification number(s)**
- **EINECS Number:** 206-067-4

3 Hazards identification

- **Hazard description:**



Harmful

- **Information pertaining to particular dangers for man and environment:**
Harmful by inhalation and in contact with skin.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 2
Fire = 0
Reactivity = 0

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- **HMIS-ratings (scale 0 - 4)**

HEALTH	2	Health = 2
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

- **GHS label elements**

**Warning**

- 3.1/4 - Harmful if swallowed.
- 3.1/4 - Harmful in contact with skin.
- 3.1/4 - Harmful if inhaled.

- **Prevention:**

Avoid breathing dust/fume/gas/mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.

- **Response:**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Specific measures (see on this label).

- **Disposal:**

Dispose of contents/container in accordance with local/regional/national/international regulations.

4 First aid measures

- **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 24 hours is recommended. Thermo Fisher Scientific is not held liable for any damage resulting from handling or from contact with the above mentioned products.

6 Accidental release measures

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:** Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

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7 Handling and storage

- **Handling:**
- **Information for safe handling:**
Thorough dedusting.
Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

8 Exposure controls and personal protection

- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Not required.

9 Physical and chemical properties

· General Information

Form:	Solid
Color:	Light yellow
Odor:	Odorless

· Change in condition

Melting point/Melting range: 189°C (372°F)

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Boiling point/Boiling range: Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Product is not flammable.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Density:** Not determined.

· **Solubility in / Miscibility with Water:** Soluble.

10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

· **Materials to be avoided:**

· **Dangerous reactions:** No dangerous reactions known.

· **Dangerous products of decomposition:** No dangerous decomposition products known.

11 Toxicological information

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

298-83-9 5,5'-diphenyl-3,3'-bis(4-nitrophenyl)-2,2'-(3,3'-dimethoxybiphenyl-4,4'-ylene) ditetrazolium dichloride

Oral	LD50	2000 mg/kg (mouse)
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· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** No irritating effect.

· **Sensitization:** No sensitizing effects known.

12 Ecological information

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

· **Product:**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

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- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **DOT regulations:**
- **Hazard class:** -
- **Land transport ADR/RID (cross-border):**
- **ADR/RID class:** -
- **Maritime transport IMDG:**
- **IMDG Class:** -
- **Marine pollutant:** No
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** -
- **UN "Model Regulation":** -

15 Regulations

- **Sara**
- **Section 355 (extremely hazardous substances):**
Substance is not listed.
- **Section 313 (Specific toxic chemical listings):**
Substance is not listed.
- **TSCA (Toxic Substances Control Act):**
Substance is listed.
- **Proposition 65**
- **Chemicals known to cause cancer:**
Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:**
Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:**
Substance is not listed.
- **Chemicals known to cause developmental toxicity:**
Substance is not listed.
- **Carcinogen categories**
- **EPA (Environmental Protection Agency)**
Substance is not listed.
- **IARC (International Agency for Research on Cancer)**
Substance is not listed.
- **NTP (National Toxicology Program)**
Substance is not listed.
- **TLV (Threshold Limit Value established by ACGIH)**
Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)**
Substance is not listed.

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<ul style="list-style-type: none"> · OSHA-Ca (Occupational Safety & Health Administration)
<ul style="list-style-type: none"> Substance is not listed.

- **Product related hazard information:**

The product has been classified and marked in accordance with directives on hazardous materials.

- **Hazard symbols:**

Harmful

- **Risk phrases:**

Harmful by inhalation and in contact with skin.

- **Safety phrases:**

Keep container in a well-ventilated place.

Wear suitable protective clothing and gloves.

This material and its container must be disposed of as hazardous waste.

16 Other information

This information is based on our present knowledge and shall be used only as a guide. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. Thermo Fisher Scientific is not held liable for any damage resulting from handling or from contact with the above mentioned products.

MSDS has been prepared in accordance with ISO 11014-1 Standard and OSHA Hazard Communication Standard 29 CFR 1910.1200.

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent