

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/14/2020

Reviewed on 10/14/2020

1 Identification

- **Product identifier**
- **Trade name:** 3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2H-tetrazolium-bromide
- **Article number:** 20395
- **CAS Number:**
298-93-1
- **EC number:**
206-069-5
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
SERVA Electrophoresis GmbH
Carl-Benz-Str. 7
D-69115 Heidelberg
Tel.: +49 6221 13840-0
FAX: +49 6221 13840-10
msds.info@serva.de
- **Information department:** Product Safety department Tel.: +49 6221 13840-35
- **Emergency telephone number:**
Medical Emergency Information in case of poisoning:
Poison Information Center Mainz - Phone: +49 (0) 6131 19240
(advisory service in German or English language)

SERVA
■ serving scientists ■

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08

Muta. 2 H341 Suspected of causing genetic defects.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms** GHS07, GHS08

- **Signal word** Warning

- **Hazard statements**

Causes skin irritation.

Causes serious eye irritation.

Suspected of causing genetic defects.

May cause respiratory irritation.

- **Precautionary statements**

Avoid breathing dust.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin: Wash with plenty of water.

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IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** PBT - assessment not available.

· **vPvB:** vPvB - assessment not available.

3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

298-93-1 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide

· **Identification number(s)**

· **EC number:** 206-069-5

· **Description:**

· **Empirical formula:** $C_{18}H_{16}BrN_5S$

· **MW:** 414.3

4 First-aid measures

· **Description of first aid measures**

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly. Consult doctor if you feel unwell.

· **After eye contact:**

Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult ophthalmologist in case of complaints.

· **After swallowing:**

Wash out mouth. Drink plenty of water and supply fresh air. Consult doctor if you feel unwell.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO_2 extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Nitrogen oxides (NOx)

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- Sulphur oxides (SO_x)
- Carbon monoxide and carbon dioxide
- Hydrogen bromide (HBr)
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 - Wear protective clothing.
 - Ensure adequate ventilation
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
 - Dispose contaminated material as waste according to item 13.
 - Pick up mechanically.
- **Reference to other sections**
 - See Section 7 for information on safe handling.
 - See Section 8 for information on personal protection equipment.
 - See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**
 - **PAC-1:** Substance is not listed.
 - **PAC-2:** Substance is not listed.
 - **PAC-3:** Substance is not listed.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **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:**
 - Protect from humidity and water.
 - Protect from exposure to the light.
 - Store in dry conditions.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **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.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Store protective clothing separately.
 - Immediately remove all soiled and contaminated clothing.
 - Avoid contact with the eyes and skin.
 - Wash hands before breaks and at the end of work.

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- **Breathing equipment:**
Short term filter device:
Filter P3
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
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
- **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.
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
Neoprene gloves
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Powder
Color:	Yellow
Odor:	Odorless
Odor threshold:	Not determined.

· Change in condition

Melting point/Melting range:	190-210 °C (374-346 °F)
Boiling point/Boiling range:	no information available

· **Flash point:** Not applicable.

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

· **Decomposition temperature:** no information available

· **Auto igniting:** no information available

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

· Explosion limits:

Lower:	no information available
Upper:	no information available

· **Vapor pressure:** no information available

· **Density:** no information available

· **Relative density** no information available

· **Vapor density** Not applicable.

· **Evaporation rate** Not applicable.

· Solubility in / Miscibility with

Water: Soluble.

· **Partition coefficient (n-octanol/water):** no information available

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- **Viscosity:**
 - Dynamic:** no information available
 - Kinematic:** no information available
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No further relevant informations available.
- **Conditions to avoid** moisture
- **Incompatible materials:** Avoid contact with strong oxidizers.
- **Hazardous decomposition products:** In case of fire: See Section 5

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
 - **on the skin:** No irritant effect.
 - **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Other information (about experimental toxicology):**
 - in-vitro-tests showed mutagenic effects (S. typhimurium, result: positive)
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
 - Do not allow product to reach ground water, water course or sewage system.
 - Water hazard class 2 (Assessment by list): hazardous for water
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
 - Disposal must be made according to official regulations.

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

· **Uncleaned packagings:**

· **Recommendation:**

Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.

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

14 Transport information

· **UN-Number**

· DOT, ADR, ADN, IMDG, IATA Void

· **UN proper shipping name**

· DOT, ADR, ADN, IMDG, IATA Void

· **Transport hazard class(es)**

· DOT, ADR, ADN, IMDG, IATA

· Class Void

· **Packing group**

· DOT, ADR, IMDG, IATA Void

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Not applicable.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:** Not dangerous according to the above specifications.

· **UN "Model Regulation":** Void

15 Regulatory information

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

· **Section 355 (extremely hazardous substances):** Substance is not listed.

· **Section 313 (Specific toxic chemical listings):** Substance is not listed.

· **TSCA (Toxic Substances Control Act):** ACTIVE

· **Hazardous Air Pollutants** Substance is not listed.

· **Proposition 65** Substance is not listed.

· **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.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)** 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.

· **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms** GHS07, GHS08

· **Signal word** Warning

· **Hazard statements**

Causes skin irritation.

Causes serious eye irritation.

Suspected of causing genetic defects.

May cause respiratory irritation.

(Contd. on page 7)

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· **Precautionary statements**

Avoid breathing dust.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin: Wash with plenty of water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Product safety department

· **Contact:** +49 6221 13840-35

· **Date of preparation / last revision** 10/14/2020 / 3

· **Abbreviations and acronyms:**

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

ICAO: International Civil Aviation Organisation

PBT: persistent, bioaccumulative, toxic substance (REACH)

vPvB: very persistent, very bioaccumulative substance (REACH)

REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

CLP: Regulation on classification, labelling and packaging of substances and mixtures

bw: body weight

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Muta. 2: Germ cell mutagenicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3