

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: TMB Substrate
Catalog number: TMB

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

Identified uses: Laboratory chemicals, for research use only
Uses advised against: Not for clinical or diagnostic use

1.3. Details of the supplier of the safety data sheet

Molecular Innovations, Inc.
46430 Peary Court, Novi, MI 48377, USA
Tel: 248-896-0142
Fax: 248-896-0148

1.4. Emergency telephone number

Emergency number: 248-896-0142

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. GHS label elements, including precautionary statements

Signal word: Danger

Hazard statement(s)

H302 + H312: Harmful if swallowed.
H332: Harmful if inhaled.
H312 + H315: Harmful in contact with skin. Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.
H370: Causes damage to organs.

Precautionary statements (Prevention)

P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
P262: Do not get in eyes, on skin, or on clothing.
P264: Wash skin thoroughly after handling.
P271: Use in a well ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements (Response)

P302 + P352: If on skin wash with plenty of soap and water.
P304 + P340: If inhaled remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338: If in eyes rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P332 + P313: If skin irritation occurs get medical advice/attention.
P337 + P313: If eye irritation persists get medical advice/attention.
P362: Take off contaminated clothing and wash before reuse.

Precautionary statements (Storage and disposal)

P403 + P233: Store in a well-ventilated place. Keep container tightly closed.

P501: Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	CAS No.	EC No.	Concentration	Classification
3,3',5,5'-Tetramethylbenzidine	54827-17-7	259-364-6	4.1%	Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; H315, H319, H335
Carbamide Peroxide	124-43-6	204-701-4	6.4%	Ox. Sol. 3; Skin Corr. 1B; Eye Dam. 1; H272, H314

For the full text of the H-Statements mentioned in this Section, see Section 16.

No ingredients are hazardous according to OSHA criteria.

No components need to be disclosed according to the applicable regulations.

SECTION 4: First aid measures

4.1. Description of first aid measures

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

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

None known.

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

In all cases of doubt, or when symptoms persist, seek medical attention.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Carbon oxides.

5.3. Advice for firefighters

Use normal individual fire protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid all unnecessary exposure. Avoid breathing vapors, mist or gas. For personal protection see section 8.

6.2. Environmental precautions

No additional information available.

6.3. Methods and material for containment and cleaning up

Take up liquid spill into inert absorbent material. Clean thoroughly.

6.4. Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2. Exposure controls

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

Eye/face protection: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: 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.

Body protection: Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid

Color: No data available

Odor: No data available

Odor threshold: No data available

pH: No data available

Melting point: No data available

Freezing point: No data available

Boiling point: No data available

Flash point: No data available

Evaporation rate: No data available

Decomposition temperature: No data available
Flammability (solid, gas): No data available
Vapor pressure: No data available
Relative vapor density: No data available
Relative density: No data available
Solubility: Water soluble
Viscosity: No data available
Explosive properties: No data available
Oxidizing properties: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under recommended storage conditions.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

No data available.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

No data available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Harmful if swallowed.

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes eye irritation.

Respiratory or skin sensitization

Irritating and destructive to mucous membrane and upper respiratory tract tissue.

Germ cell mutagenicity

Mutation in mammalian somatic cells.

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available.

Specific target organ toxicity-single exposure

No data available.

Specific target organ toxicity repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

To the best of our knowledge the product does not present any particular risk under normal conditions of use. The chemical, physical, and toxicological properties have not been thoroughly investigated.
Safety Data Sheet in accordance with Regulation (EC) No. 1907/2006, as amended.

SECTION 12: Ecological information**12.1. Toxicity**

Presents no specific risk for the environment in small amounts.

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

No data available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

Not dangerous goods in accordance with DOT (US) / ADR / RID / ADNR / IMDG / ICAO / IATA

14.1 UN number

Not regulated.

14.2 UN proper shipping name

Not regulated.

14.3 Transport hazard class(es)

Not regulated.

14.4 Packaging group

Not regulated.

14.5 Environmental hazards

No data available.

14.6 Special precautions for user

No data available.

14.7 Transport in bulk according to Annex II of Marpol73/78 and the IBC Code

No data available.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****United States Restrictions**

SARA 302 Components: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards: No SARA Hazards.

Massachusetts Right To Know Components: No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components: Tetramethylbenzidine, CAS No. 54827-17-7. Carbamide Peroxide, CAS No. 124-43-6

New Jersey Right To Know Components: Tetramethylbenzidine, CAS No. 54827-17-7. Carbamide Peroxide, CAS No. 124-43-6

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

European Union Restrictions

Act No. 350/2011 Coll., to regulate chemical substances and chemical mixtures and to amend some statutes, as amended.

Implemented regulations to Act No. 350/2011 Coll., as amended The Waste Act as amended. Government Decree No. 361/2007

Coll., to regulate the conditions of occupational health and safety, as amended. Regulation of the European Parliament and the

Council (EC) No. 1907/2006 (REACH). Regulation of the European Parliament and the Council (EC) No. 1272/2008 (CLP). Commission Regulation (EU) No. 453/2010. Directives 67/548/EEC as amended and 1999/45/EC as amended.

15.2. Chemical safety assessment

Chemical safety assessment has not been carried out.

SECTION 16: Other information**Full text of H-Statements referred to under sections 2 and 3.**

Eye Dam: Serious eye damage

Eye Irrit: Eye irritation

H272: May intensify fire; oxidiser.

H314: Causes severe skin burns and eye damage

H315: Causes skin irritation

H318: Causes serious eye damage

H319: Causes serious eye irritation

H335: May cause respiratory irritation

Ox. Sol: Oxidizing solids

Skin Corr: Skin corrosion

Skin Irrit: Skin irritation

STOT SE: Specific target organ toxicity - single exposure

Hazardous Material Information System (HMIS) Rating

Health Hazard: 2

Chronic Health Hazard:

Flammability: 0

Physical Hazard: 0

National Fire Protection Association (NFPA) Rating

Health Hazard: 2

Fire Hazard: 0

Reactivity Hazard: 0

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