

Safety Data Sheet

Section 1: Product and Company Identification

1.1 Product Identifiers:

Product Name: Polybrominated Diphenyl Ether (PBDE) ELISA Plate kit including TMB (Color Solution), Sulfuric Acid (Stop Solution);

Polybrominated Diphenyl Ether (PBDE) ELISA Plate kit

Product Code: 530045, 500090

1.2 Identified Use: in samples. **Restrictions on Use:** For research use only.

1.3 Company: Eurofins Abraxis, 124 Railroad Drive, Warminster, PA 18974 USA, info.ET.Warminster@eurofins.com +1(215) 357-3911, FAX +1(215) 357-5232

1.4 Emergency Telephone Number: +1(215) 357-3911

Section 2: Hazard(s) Identification

2.1 Classification of the mixture:

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

Flammable liquids (Category 4), H227 Combustible liquid

Flammable liquids (Category 2), H225 Highly flammable liquid and vapor

Acute toxicity, Oral (Category 3), H301 Toxic if swallowed

Acute toxicity, Inhalation (Category 3), H331 Toxic if inhaled

Acute toxicity, Dermal (Category 3), H311 Toxic in contact with skin

Specific target organ toxicity - single exposure (Category 1), H370 Causes damage to organs

HMIS Rating: Dimethyl sulfoxide, CAS No. 67-68-5: Health hazard: 0, Chronic Health Hazard: *, Flammability: 2, Physical Hazard 0

NFPA Rating: Dimethyl sulfoxide, CAS No. 67-68-5: Health hazard: 0, Fire Hazard: 2, Reactivity Hazard: 0

2.2 GHS Label elements, including precautionary statements:

Pictogram(s):



Signal word(s): Danger

Hazard statement(s):

H225 Highly flammable liquid and vapor.

H227 Combustible liquid.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H301 + H311 + H331 Toxic if swallowed, in contact with skin, or if inhaled

H370 Causes damage to organs.

Precautionary statement(s):

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233 Keep container tightly closed.

P234 Keep only in original container.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P260 Do not breathe dust/fume/gas/mist/vapors/ spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/eye protection/face protection.

P301 + P310 + P330 + P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Immediately call a POISON CENTER or doctor/physician.

P307 + P311 If exposed: Call a POISON CENTER or doctor/physician.

P362 Take off contaminated clothing and wash before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

P363 Wash contaminated clothing before reuse.

P390 Absorb spillage to prevent material damage.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS: Readily absorbed through skin

2.4 Unknown acute toxicity: None known.

Section 3: Composition / Information on Ingredients

3.2 Mixtures: Mixture(s) of the hazardous substance(s) listed below, with nonhazardous additions.

Hazardous component(s):

Name and Synonym(s): DMSO, Dimethyl sulfoxide, Methyl sulfoxide Formula: C₂H₆OS Molecular weight: 78.13 g/mol

CAS No.: 67-68-5 EC-No.: 200-664-3

Classification: Flammable Liquid 4; H227

Percentage in Mixture: 1.91 %

Name and Synonym(s): Sulfuric Acid Formula: H₂SO₄ Molecular weight: 98.08 g/mol

CAS No.: 7664-93-9 EC-No.: 231-639-3

Classification: Acute Toxicity, 3; H311

Percentage in Mixture: 2%

For full text of H-Statements mentioned in this Section, see Section 2.

Section 4: First Aid Measures

4.1 Description of first aid measures: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact: Wash off with soap and plenty of water. Consult a physician.

In case of eye contact: Rinse thoroughly with plenty of water as a precaution.

If swallowed: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed: The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed: No data available. Treat symptomatically.

Section 5: Fire-fighting Measures

5.1 Suitable extinguishing media: Water spray, alcohol-resistant foam, dry chemical or carbon dioxide

5.2 Special hazards arising from the substance or mixture: Carbon oxides, Sulfur oxides

5.3 Advice for firefighters: Wear self-contained breathing apparatus for fire-fighting if necessary.

5.4 Further information: Use water spray to cool unopened containers.

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures: Use personal protective equipment (see section 8). Avoid dust formation. Avoid breathing vapors, mist, dust, or gas. Ensure adequate ventilation. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Remove all sources of ignition. Evacuate personnel to safe areas.

6.2 Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections: For information on safe handling see section 7. For information on personal protection see section 8. For information on disposal see section 13.

Section 7: Handling and Storage

7.1 Precautions for safe handling: See section 2. Avoid inhalation of vapor or mist. Keep away from sources of ignition. No smoking. Take measures to prevent the buildup of electrostatic charge.

7.2 Precautions for safe storage: Keep container(s) tightly closed in a dry, well-ventilated place. Store under inert gas. Hygroscopic. See label or product insert for appropriate storage temperature and additional specific information. Storage class (TRGS 510): Combustible liquids.

7.3 Specific end use(s): Other than use(s) specified in section 1, no other uses are stipulated.

8.1 Control parameters:

Component(s) with workplace control parameters

Dimethyl sulfoxide, CAS No. 67-68-5

Value	Control parameters	Basis
TWA	250.000000 ppm	USA. Workplace Environmental Exposure Levels (WEEL)

Sulfuric Acid, CAS 7664-93-9

Value	Control parameters	Basis
TWA	0.2 mg/ m ³	USA. ACGIH Threshold Limit Values (TLV)
TWA	1 mg/m ³	USA. OSHA – TABLE Z – 1 Limits for Air Contaminants – 1910.1000
TWA	1 mg/m ³	USA. Occupational Exposure Limits; (OSHA) - Table Z-1 Limits for Air Contaminants

8.2 Exposure controls:

Appropriate engineering controls: Provide adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Keep away from food and beverages.

Personal protective equipment

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

Skin protection: Handle with chemical resistant 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.

Respiratory protection: Do not breathe vapors. Use a chemical fume hood or approved respiratory protection equipment.

Body protection: Lightweight, protective clothing to prevent skin exposure.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties of mixture

Appearance: Multiple

Odor: Characteristic

Odor Threshold: No data available

pH: Multiple

Melting point/freezing point: No data available

Initial boiling point and boiling range: No data available

Flash point: No data available

Evaporation rate: No data available

Flammability (solid, gas): No data available

Upper/lower flammability or explosive limits: No data available

Vapor pressure: No data available

Vapor density: No data available

Relative density: No data available

Water solubility: Various

Partition coefficient: n-octanol/water: No data available

Auto-ignition temperature: Not applicable

Decomposition temperature: No data available

Viscosity: No data available

Explosive properties: No data available

Oxidizing properties: No data available

9.2 Other information: No data available

Section 10: Stability and Reactivity

10.1 Reactivity: No data available

10.2 Chemical stability: Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions: No data available

10.4 Conditions to avoid: Keep away from open flame, hot surfaces, heat sources, and sources of ignition.

10.5 Incompatible materials: Acid chlorides, phosphorus halides, strong acids, strong oxidizing agents, strong reducing agents

10.6 Hazardous decomposition products: No data available. In the event of fire: see section 5.

Section 11: Toxicological Information

11.1 Information on toxicological effects

To the best of our knowledge, the chemical, physical, and toxicological properties of this product have not been thoroughly investigated.

Acute toxicity (*Dimethyl sulfoxide, CAS No. 67-68-5*):

Inhalation LC50 Inhalation - Rat - 4 h – 40250 ppm

Ingestion LD50 Oral - Rat – 14,500 mg/kg

Skin contact LD50 Dermal - Rabbit - > 5,000 mg/kg; mild skin irritation; **Eye contact** No data available

Respiratory or skin sensitization No data available; **Aspiration hazard** No data available

Mutagenicity (*Dimethyl sulfoxide, CAS No. 67-68-5*): Cytogenetic analysis (Mouse lymphocyte, Rat)--Result: mutation, DNA damage in mammalian somatic cells

Carcinogenicity:

(*Dimethyl sulfoxide, CAS No. 67-68-5*): Rat (oral)—Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors. Mouse (oral)—Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Leukemia Skin and Appendages: Other: Tumors.

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.

Teratogenicity: No data available

Reproductive/fertility toxicity:

(*Dimethyl sulfoxide, CAS No. 67-68-5*): Reproductive toxicity (Rat, intraperitoneal and subcutaneous)--Effects on Fertility: Abortion; post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants); litter size (e.g.; # fetuses per litter; measured before birth).

Reproductive toxicity (Mouse, oral)--Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

Developmental Toxicity (Mouse, intraperitoneal)--Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

Specific target organ toxicity, single exposure (*Dimethyl sulfoxide, CAS No. 67-68-5*): No data available

Specific target organ toxicity, repeated exposure: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Additional information (*Dimethyl sulfoxide, CAS No. 67-68-5*): RTECS: PV6210000 Exposure to large amounts can cause redness of skin, itching, burning, sedation, headache, nausea, dizziness. Eyes - Eye disease - Based on Human Evidence

Section 12: Ecological Information

12.1 Toxicity: (*Dimethyl sulfoxide, CAS No. 67-68-5*) Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 34,000 mg/l - 96 h; LC50 - Oncorhynchus mykiss (rainbow trout) - 35,000 mg/l - 96 h. Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 24,600 mg/l - 48 h (OECD Test Guideline 202). Toxicity to algae EC50 - Pseudokirchneriella subcapitata (green algae) - 17,000 mg/l - 72 h (OECD Test Guideline 201)

12.2 Persistence and degradability: Dimethyl sulfoxide result: 31 %, not readily biodegradable (OECD Test Guideline 301D)

12.3 Bioaccumulative potential: No data available

12.4 Mobility in soil: No data available

12.5 Results of PBT and vPvB assessment: No data available

12.6 Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13: Disposal Considerations

13.1 Waste treatment methods

Product: All waste must be handled and disposed according to local, state, and federal regulations. Avoid disposing large volumes in sewer.

Contaminated packaging: All waste must be handled and disposed according to local, state, and federal regulations.

Refer to sections 7 and 8 for safe handling guidance.

Section 14: Transport Information

DOT, Land Transport ADR/RID (cross-border), Maritime Transport IMDG, Air Transport ICAO-TI and IATA-DGR

UN Number: 3316
UN Proper shipping name: Chemical Kit, (contains DMSO)
Transport hazard class(es): 9
Packing group: III
Environmental hazard: See section 12
Bulk transport: Excepted/Limited quantity
Special considerations: See section 7 for handling

Section 15: Regulatory Information

EU Regulations, Hazard Symbol(s): Dimethyl sulfoxide: Xi (Irritant)

Safety Phrases: Dimethyl sulfoxide: S 24/25 Avoid contact with skin and eyes

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

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

SARA 311/312 Hazards: Dimethyl sulfoxide, CAS No. 67-68-5: Fire Hazard, Chronic Health Hazard

State Right-to-Know

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

Pennsylvania: Dimethyl sulfoxide, CAS No. 67-68-5

New Jersey: Dimethyl sulfoxide, CAS No. 67-68-5

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.

Section 16: Other information

This information is based on our present knowledge. While Eurofins Abraxis believes that the data contained herein are factual and the opinions expressed represent a best effort to present accurate information, the data are not to be taken as a warranty or representation for which Eurofins Abraxis assumes legal responsibility. The information shall not be taken as being all-inclusive and is to be used only as a guide. The data are offered solely for the user's consideration, investigation, and verification. These suggestions should not be confused with either state, municipal, or insurance requirements, or with national safety codes and constitute no warranty. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state, and local regulations.

All materials and mixtures may present unknown hazards and should be used with caution. Since Eurofins Abraxis cannot control the methods, volumes, or conditions of use of this product, Eurofins Abraxis shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. An individual technically qualified to handle potentially hazardous chemicals must supervise the use of this material. This product is sold for research use only. It is not for any human or animal therapeutic or clinical diagnostic use.

Date this SDS is effective: 13SEP2022

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