

SAFETY DATA SHEET

Sustainion® T Anion Exchange Polymer Membrane

Version 2.0
SDS DATE: 04/05/2018

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Sustainion® T Anion Exchange Polymer Membrane

MANUFACTURER: Dioxide Materials
ADDRESS: 3998 FAU Boulevard #300
City, State, Zip: Boca Raton, FL 33431

EMERGENCY PHONE: (217) 239-1400
TECHNICAL PHONE: (217) 239-1400
E-MAIL: info@dioxidematerials.com

SECTION 2: HAZARDS IDENTIFICATION



PICTOGRAM

EMERGENCY OVERVIEW:

Stable.

May irritate eyes and/or skin. May be harmful if swallowed and/or inhaled.

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

A similar compound, Colestyramine, has been shown to cause constipation when swallowed, and in rare cases intestinal obstruction, or hyperchloremic metabolic acidosis

For additional information on toxicity, please refer to Section 11.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS:	CAS NO.	PERCENT	SARA 313
1H-Imidazole, 1,2,4,5-tetramethyl-, compd. with 1-(chloromethyl)-4-ethenylbenzene polymer with diethenylbenzene and ethenylbenzene	2067233-09-2	>83%	N/A
1,2,4,5-Tetramethylimidazole	1739-83-9	<5%	N
PTFE (polytetrafluoroethylene)	9002-84-0	12%	N

SYNONYMS: PSTMIM-Cl, Sustainion® T

CHEMICAL FORMULA: Confidential

SECTION 4: FIRST AID MEASURES

GENERAL ADVICE

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of danderous area.

IN CASE OF EYES CONTACT:

In case of contact with eyes, flush thoroughly with plenty of water for at least 15 mintues. Assure adequated flushing by separating the eyelids with fingers. Call a physician.

IN CASE OF SKIN CONTACT:

In case of skin contact, wash off with soap and plenty of water for at least 15 minutes. Remove contaminated clothing and shows. Call a physician.

IF SWALLOWED:

Never give anything by mouth to an unconscious person. If swallowed, rinse mouth with water. Call a physician immediately.

IF INHALED:

If inhaled, remove person into fresh air. If not breathing, give artificial respiration. Consult a physician.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

No data available

SECTION 5: FIRE-FIGHTING MEASURES

SAFETY DATA SHEET

Sustainion® T Anion Exchange Polymer Membrane

Version 2.0
SDS DATE: 04/05/2018

AUTOIGNITION TEMPERATURE: data not available

NFPA HAZARD CLASSIFICATION:
(estimated) HEALTH: 1

FLAMMABILITY: 1

REACTIVITY: 0

HMIS HAZARD CLASSIFICATION:
(estimated) HEALTH: 2

FLAMMABILITY: 1

REACTIVITY: 0

EXTINGUISHING MEDIA:

SUITABLE EXTINGUISHING MEDIA

Water spray. Carbon dioxide, dry chemical powder, or alcohol-resistant foam

FIRE FIGHTING:

SPECIFIC HAZARD(S) ARISING FROM THE SUBSTANCE OR MIXTURE

Nature of decomposition products not known.

ADVICE FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes if necessary.

FURTHER INFORMATION

No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Wear disposable coveralls and discard them after use. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

ENVIRONMENTAL PRECAUTIONS

Do not let product enter drains.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING:

Avoid contact with skin and eyes. Do not breath dust. Provide appropriate exhaust ventilation at places where dust or mist is formed.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

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

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

Hand in accordance with good industrial hygiene and safety practice. Washing hands before breaks and at the end of the workday.

RESPIRATORY PROTECTION:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

SKIN PROTECTION:

Handle with Compatible chemical-resistant gloves. Gloves must be inspected prior to use. Use proper glove removal techniques (without touching glove's outer surface) to avoid skin contact with this product. Disposed of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

EYE PROTECTION:

Chemical safety goggles with side-shields conforming to EN 166 use equipment for eye protection tested and approved under appropriate government standards such as NIOSH(US) or EN 166 (EU).

WORK HYGIENIC PRACTICES:

Wash contaminated clothing before reuse. Wash thoroughly after handling.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

SAFETY DATA SHEET

Sustainion® T Anion Exchange Polymer Membrane

Version 2.0
SDS DATE: 04/05/2018

PHYSICAL STATE:	Solid Polymer
COLOR:	translucent white
FORM:	solid particulate
ODOR:	no data available
ODOR THRESHOLD	no data available
pH:	no data available
BOILING POINT:	no data available
MELTING POINT:	no data available
FREEZING POINT:	no data available
VAPOR PRESSURE (mmHg):	no data available
VAPOR DENSITY (AIR = 1):	no data available
SPECIFIC GRAVITY (H₂O = 1):	no data available
EVAPORATION RATE:	no data available
SOLUBILITY IN WATER:	Not soluble in water, polymer portion soluble in ethanol, isopropanol
DECOMPOSITION TEMP:	no data available
PARTITION COEFFICIENT:	no data available
FLASH POINT °F:	no data available
FLASH POINT °C:	no data available
EXPLOSION PEROPERTIES:	no data available
OXIDIZING PROPERTIES:	no data available
FLAMMABILITY:	no data available
AUTOIGNITION TEMP:	no data available
VISCOSITY:	no data available

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: no data available

CHEMICAL STABILITY: no data available

INCOMPATIBILITY (MATERIAL TO AVOID): strong oxidizing agents.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: no data available

HAZARDOUS POLYMERIZATION: will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

ACUTE TOXICITY: no data available

SKIN CIRROSION/IRRITATION: no data available

SERIOUS EYE IRRITATION/EYE DAMAGE: no data available

INHALATION: no data available

REPRODUCTIVE TOXICITY: no data available

TARGET ORGAN(S) or SYSTEM(S): no data available

RTECS: not available

CARCINOGENITY: no data available. Note 2-methyl-imidazole and 4-methyl imidazole have been shown to lead to increased incidence of lung and liver cancer in rats at doses of 230 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

TOXICITY: no data available

PERSISTENCE AND DEGRADABILITY: no data available

BIOACCUMULATIVE POTENTIAL: no data available

SAFETY DATA SHEET

Sustainion® T Anion Exchange Polymer Membrane

Version 2.0
SDS DATE: 04/05/2018

MOBILITY IN SOIL: no data available

OTHER ADVERSE EFFECTS: no data available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:

Contact a licensed professional waste disposal service to dispose of this material.
Observe all federal, state and local environmental regulations.

CONTAMINATED PACKAGING: dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

PROPER SHIPPING NAME: None

NON-HAZARDOUS FOR TRANSPORT: This substance is considered to be nonhazardous for transport.

WATER TRANSPORTATION

PROPER SHIPPING NAME: None

NON-HAZARDOUS FOR WATER TRANSPORT: This substance is considered to be nonhazardous for water transport.

AIR TRANSPORTATION

PROPER SHIPPING NAME: None

NON-HAZARDOUS FOR AIR TRANSPORT: This substance is considered to be nonhazardous for air transport.

Quantities less than 100 lbs: Quantities 100 lbs or more in a single package:

DOT SHIPPING DESCRIPTION: Not Regulated

DOT HAZARD CLASSIFICATION: Not Regulated

DOT LABELS REQUIRED: None

DOT MARKING REQUIRED: None

UN NUMBER: Not Applicable

SECTION 15: REGULATORY INFORMATION

SARA 302 COMPONENTS

SARA 302: no chemicals in this materials are subject to the reporting requirement of SARA Title III, Section 302.

SARA 313 COMPONENTS

SARA 313: no chemicals in this materials are subject to the reporting requirement of SARA Title III, Section 302

STATE REGULATIONS: no data available

INTERNATIONAL REGULATIONS: no data available

SECTION 16: OTHER INFORMATION

DISCLAIMER: For R&D use only.

SDS CREATION DATE: May 5, 2015

REVISION DATE: July 10, 2019

REVISION WERE MADE IN SECTIONS: 2,3