



SIGMA-ALDRICH

Material Safety Data Sheet

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Version 1.10

Section 1 - Product and Company information

Product Name DOWEX[®] 1X4-50 ion-exchange resin
Product Number 428612
Brand Sigma-Aldrich

Company Sigma-Aldrich
Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052

Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
DIVINYLBENZENE, POLYMER WITH STYRENE AND ETHYLSTYRENE, CHLOROMETHYLATED, TRIMETHYLAMINE-QUATERNIZED	69011-19-4	No		
Ingredient Name	CAS #	Percent	SARA 313	
Styrene, divinylbenzene, and ethylstyrene copolymer, chloromethyl trimethylamine functionalized in the chloride form	69011-19-4	>= 20.000 % <= 65.000 %		
WATER	7732-18-5	>= 35.000 % <= 80.000 %		

Formula (C10H12.C10H10.C8H8.C3H9N)x
Synonyms

Section 3 - Hazards Identification

Emergency Overview

Caution: Avoid contact and inhalation.

HMIS Rating

Health: 1 Flammability: 0 Reactivity: 0

NFPA Rating

Health: 1 Flammability: 0 Reactivity: 0

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

Section 4 - First Aid Measures

Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

Dermal Exposure

In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Explosion Hazards

Nitric acid and other strong oxidizing agents can cause explosive type reactions when mixed with ion exchange resins.

Conditions of Flammability

Product is not combustible until moisture is removed then resin starts to burn in flame at 230°C. Autoignition occurs above 500°C.

Autoignition Temp: N/A

Extinguishing Media

Suitable

Water spray, Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting

Protective Equipment

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

Specific Hazard(s)

Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s)

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

Methods for Cleaning Up

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

Section 7 - Handling and Storage

Handling

User Exposure

Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Dry ion exchange resins expand when wetted, which may cause column to shatter.

Storage

Suitable

Keep tightly closed.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment

Respiratory

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts is desired, use type N95 (US) or type P1 (EN 143) dust masks.

Hand

Protective gloves.

Eye

Chemical safety goggles.

General Hygiene Measures

Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance**Physical State**

Solid

Molecular Weight N/A**pH** N/A**BP/BP Range** N/A**MP/MP Range** N/A**Freezing Point** N/A**Vapor Pressure** N/A**Vapor Density** N/A**Saturated Vapor Conc.** N/A**SG/Density** N/A**Bulk Density** N/A**Odor Threshold** N/A**Volatile%** N/A**VOC Content** N/A**Water Content** N/A**Solvent Content** N/A**Evaporation Rate** N/A**Viscosity** N/A**Partition Coefficient** N/A**Decomposition Temp.** N/A**Flash Point °F** N/A**Flash Point °C** N/A**Explosion Limits** N/A**Flammability** N/A**Autoignition Temp** N/A**Solubility** N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability**Stable**

Stable.

Materials to Avoid

Strong oxidizing agents

Hazardous Decomposition Products**Hazardous Decomposition Products**

Carbon monoxide, Carbon dioxide, Nitrogen oxides, Alkylbenzenes, vinylbenzenes, naphthalene, benzaldehydes, and phenol may also form.

Hazardous Polymerization**Hazardous Polymerization**

Will not occur.

Section 11 - Toxicological Information

Route of Exposure**Skin Contact**

May cause skin irritation.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

May cause eye irritation.

Inhalation

May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion

May be harmful if swallowed.

Signs and Symptoms of Exposure

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

RTECS Number: N/A

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT**Proper Shipping Name:** None**Non-Hazardous for Transport** This substance is considered to be nonhazardous for transport.**IATA****Non-Hazardous for Air Transport** Non-hazardous for air transport.

Section 15 - Regulatory Information

US Classification and Label Text**US Statements**

Caution: Avoid contact and inhalation.

United States Regulatory Information**SARA Listed:** No**Canada Regulatory Information****WHMIS Classification**

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes**NDSL:** No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. SigmaAldrich Inc., shall not be held liable for any damage resulting from handling or fom contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.