SAFETY DATA SHEET

Safety Data Sheet according to Reg. (EC) N. 453/2010 .

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product name **AMBERLITE™ MB20 Ion Exchange Resin**

Product description Quaternary ammonium divinylbenzene/styrene copolymer.
Sulfonated divinylbenzene/styrene copolymer.

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

Identified uses Ion exchange and/or Adsorption process

1.3 Details of the supplier of the safety data sheet

Supplier

ROHM AND HAAS EUROPE TRADING APS
UK BRANCH
A Subsidiary of The Dow Chemical Company
HERALD WAY
COVENTRY, ENG CV3 2RQ United Kingdom

E-mail address: SDSQuestion@dow.com

For non-emergency information contact: (31) 115 67 2626

1.4 Emergency telephone number

+31 115 694982

Local emergency telephone number

00 31 115 69 4982

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SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to EU Directives 67/548/EEC or 1999/45/EC
Irritant - Xi - R41
For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according to EC Directives:

Hazard pictograms

Hazard symbols

Xi Irritant

Risk Phrases

R41 Risk of serious damage to eyes.

Safety phrases

S22 Do not breathe dust.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S39 Wear eye/face protection.

2.3 Other hazards

no data available

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

This product is a preparation.

CAS-No. / EINECS-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification
CAS-No. 69011-18-3 **EINECS-No.** – **Index-No.** –	Not subject to registration	20,0 - < 25,0 %	Benzene, diethenyl-, polymer with ethenylbenzeneand ethenylethylbenzene, chloromethylated, trimethylamine-quaternized, hydroxide	Eye Dam. - 1 - H318
CAS-No. 69011-20-7 **EINECS-No.** – **Index-No.** –	Not subject to registration	20,0 - < 25,0 %	Styrene, Divinylbenzene and Ethylstyrene Copolymer, Sulfonated, Hydrogen Form	Eye Dam. - 1 - H318

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

CAS-No. / EINECS-No. / Index-No.	Concentration	Component	Classification
CAS-No. 69011-18-3 **EINECS-No.** – **Index-No.**	20,0 - < 25,0 %	Benzene, diethenyl-, polymer with ethenylbenzeneand ethenylethylbenzene, chloromethylated, trimethylamine-quaternized,	Xi - R41

–		hydroxide	
CAS-No. 69011-20-7 **EINECS-No.** – **Index-No.** –	20,0 - < 25,0 %	Styrene, Divinylbenzene and Ethylstyrene Copolymer, Sulfonated, Hydrogen Form	Xi - R41

For the full text of the R-phrases mentioned in this Section, see Section 16.

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures
Skin contact: Wash off with soap and water. If skin irritation persists, call a physician.

Eye contact: Immediately flush the eye with plenty of water for at least 15 minutes, holding the eye open. Get prompt medical attention.

4.2 Most important symptoms and effects, both acute and delayed
No information available.

4.3 Indication of any immediate medical attention and special treatment needed
Notes to physician: Treatment should be directed at preventing absorption, administering to symptoms (if they occur), and providing supportive therapy.

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media: Use the following extinguishing media when fighting fires involving this material:
Water spray
Carbon dioxide (CO2)
Foam
Dry chemical

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting: Cool closed containers exposed to fire with water spray. Exposure to decomposition products may be a hazard to health. Dusts at sufficient concentrations can form explosive mixtures with air.

5.3 Advice for firefighters
Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.

Further information: Remain upwind.
Avoid breathing smoke.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations.
If exposed to material during clean-up operations, see SECTION 4, First Aid Measures, for actions to follow.

6.2 Environmental precautions
WARNING: KEEP SPILLS OF PRODUCT AS SUPPLIED OUT OF MUNICIPAL SEWERS AND OPEN BODIES OF WATER. DO NOT DISCHARGE CLEANING RUNOFFS DIRECTLY TO OPEN BODIES OF WATER.
Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

6.3 Methods and materials for containment and cleaning up
Keep spectators away.
Floor may be slippery; use care to avoid falling.
Transfer spilled material to suitable containers for recovery or disposal.

6.4 Reference to other sections
No information available.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid repeated freeze-thaw cycles; beads may fracture. If frozen, thaw at room temperature. Avoid contact with skin, eyes and clothing. Corrosive to eyes See SECTION 8, Exposure Controls/Personal Protection, prior to handling. Properly designed equipment is vital if these resins are to be used in conjunction with strong oxidizing agents such as nitric acid to prevent a rapid build-up of pressure and possible explosion. Consult a source knowledgeable in the handling of these materials before proceeding.

7.2 Conditions for safe storage, including any incompatibilities

7.3 Specific end uses
Further information:
CAUTION: Do not pack column with dry ion exchange resins. Dry beads expand when wetted; this expansion can cause glass column to shatter.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Exposure limits are listed below, if they exist.

8.2 Exposure controls
Engineering measures: None required under normal operating conditions.

Protective measures: Facilities storing or utilizing this material should be equipped with an eyewash facility.

Individual protection measures

> **Eye/face protection:** Chemical resistant goggles must be worn. Eye protection worn must be compatible with respiratory protection system employed.

Skin protection

Hand protection: Wear suitable gloves.

Respiratory protection: No personal respiratory protective equipment normally required.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Beads
Colour	Amber or brown
Odour	Amine odor
Odour Threshold	no data available
pH	5,0 - 9,0 Aqueous slurry
Melting point	no data available
Boiling point/boiling range	100 °C Water
Flash point	no data available
Evaporation rate	no data available
Flammability (solid, gas)	no data available
Lower explosion limit	Not Applicable
Upper explosion limit	Not Applicable
Vapour pressure	22,0 hPa at 20 °C
Relative vapour density	<1,0
Relative density	1,08 - 1,20
Water solubility	practically insoluble
Partition coefficient: n-octanol/water	no data available
Autoignition temperature	500 °C estimated
Decomposition temperature	no data available
Viscosity, dynamic	no data available
Explosive properties	no data available
Oxidizing properties	no data available

9.2 Other information

Percent volatility	59 - 64 %
Solubility in other solvents	no data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity
no data available

10.2 Chemical stability
no data available
10.3 Possibility of hazardous reactions
Stable under normal conditions.
polymerisation Product will not undergo polymerization.

10.4 Conditions to avoid
no data available
10.5 Incompatible materials
Avoid contact with the following: Strong Oxidizers Nitric acid

10.6 Hazardous decomposition products
Thermal decomposition may yield the following:, monomer vapors,

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity
Component: **Benzene, diethenyl-, polymer with ethenylbenzeneand ethenylethylbenzene, chloromethylated, trimethylamine-quaternized, hydroxide**

LC50, rat, female, > 2 000 mg/kg
Component: **Styrene, Divinylbenzene and Ethylstyrene Copolymer, Sulfonated, Hydrogen Form**

LD50, rat, > 2 000 mg/kg

Acute dermal toxicity
no data available

Acute inhalation toxicity
Component: **Styrene, Divinylbenzene and Ethylstyrene Copolymer, Sulfonated, Hydrogen Form**

Toxicity data for a compositionally similar material., LC50, 4 Hour, vapour, rat, 11 mg/l

Skin corrosion/irritation
Component: **Benzene, diethenyl-, polymer with ethenylbenzeneand ethenylethylbenzene, chloromethylated, trimethylamine-quaternized, hydroxide**
rabbit OECD Test Guideline 404 4 Hour No skin irritation
Component: **Styrene, Divinylbenzene and Ethylstyrene Copolymer, Sulfonated, Hydrogen Form**
rabbit OECD Test Guideline 404 4 Hour non-irritating

Serious eye damage/eye irritation
Risk of serious damage to eyes.

Sensitisation
no data available

Carcinogenicity
no data available

Mutagenicity
Component: **Benzene, diethenyl-, polymer with ethenylbenzeneand ethenylethylbenzene, chloromethylated, trimethylamine-quaternized, hydroxide**
Reverse mutation test using bacteria: Non-mutagenic with and without metabolic activation
Component: **Styrene, Divinylbenzene and Ethylstyrene Copolymer, Sulfonated, Hydrogen Form**
Reverse mutation test using bacteria: Non-mutagenic with and without metabolic activation

Reproductive toxicity
no data available

Specific Target Organ Systemic Toxicity (Single Exposure)
no data available

Specific Target Organ Systemic Toxicity (Repeated Exposure)
no data available

Aspiration Hazard
no data available

No data are available for this material. The information shown is based on profiles of compositionally similar materials.
Laboratory tests showed an increase in pH within one minute of exposing strong acid cation in hydrogen form (SAC H) and strong base anion in hydroxyl form (SBA OH) mixed bed resins to a 1% NaCl solution. This pH effect is likely to result in severe irritation to the eye for exposure to the product as supplied.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Acute toxicity to fish
no data available

Acute toxicity to aquatic invertebrates
no data available

Acute toxicity to algae
no data available

Toxicity to bacteria
no data available

Chronic aquatic toxicity

Chronic toxicity to fish
no data available

Chronic toxicity to aquatic invertebrates
no data available

Toxicity to soil-dwelling organisms
no data available

Toxicity to terrestrial plants
no data available

Toxicity to other non-mammalian terrestrial species
no data available

12.2 Persistence and degradability
Biodegradability
no data available

Physico-chemical removability
no data available

12.3 Bioaccumulative potential
Bioaccumulation
no data available

12.4 Mobility in soil
Partition coefficient: n-octanol/water
no data available

Distribution among environmental compartments
no data available

Fate and behaviour in the environment
no data available

12.5 Results of PBT and vPvB assessment
no data available

12.6 Other adverse effects
Hazardous to the ozone layer
no data available

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

European Waste Catalogue (2000/532/EC)	The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

Environmental precautions: WARNING: KEEP SPILLS OF PRODUCT AS SUPPLIED OUT OF MUNICIPAL SEWERS AND OPEN BODIES OF WATER. DO NOT DISCHARGE CLEANING RUNOFFS DIRECTLY TO OPEN BODIES OF WATER.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Disposal
Can be incinerated, when in compliance with local regulations.

13.2 Additional information

Contaminated packaging: Empty containers should be taken to local recyclers for disposal. Refer to applicable federal, state, and local regulations.

SECTION 14. TRANSPORT INFORMATION

Classification for ROAD and Rail transport (ADR/RID):
Not regulated for transport

Classification for SEA transport (IMO-IMDG):
Not regulated for transport

Classification for AIR transport (IATA/ICAO):
Not regulated for transport

Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations.

SECTION 15. REGULATORY INFORMATION

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

PR - Numbers Norway): 304064

European Inventory of Existing Commercial Chemical Substances (EINECS) (EINECS): This product satisfies all the requirements of the European Inventory of Existing Chemical Substances (EINECS).

United States TSCA Inventory (US.TSCA): All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

15.2 Chemical Safety Assessment

Chemical Safety Assessment
not applicable

SECTION 16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.
H318 Causes serious eye damage.

Full text of R-phrases referred to under sections 2 and 3
R41 Risk of serious damage to eyes.

Legend

ACGIH	American Conference of Governmental Industrial Hygienists
BAc	Butyl acetate
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
STEL	Short Term Exposure Limit (STEL):
TLV	Threshold Limit Value
TWA	Time Weighted Average (TWA):
|	Bar denotes a revision from prior MSDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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