MB 12

Description

MB 12 is a mixed bed ion exchange resin. It is a mixture of highly purified and super regenerated strong acid cation and strong base anion in 1:2 stoichiometrically equivalent volume ratio of cation in H form & anion in OH form..

Applications

MB 12 is recommended in any non regenerable mixed bed application where reliable production of the highest quality water is required and where "as supplied" resin must have an absolute minimum of ionic and nonionic contamination.

Characteristics

Physical

Appearance	:	Spherical beads
Shipping weight *	:	700 kg/m^3, approximately
Particle size range	:	0.3 to 1.2 mm
> 1.2 mm	:	5.0 %, maximum
< 0.3 mm	:	1.0 %, maximum
Uniformity co-efficient	:	1.7, maximum
Effective size	:	0.45 to 0.55 mm
Microscopic Examination	:	Surface cracks not more than 5 %

Chemical	Cation resin	Anion resin
Matrix	Crosslinked polystyrene	Crosslinked polystyrene
Type	Gel	Gel
Functional Group	Sulphonic acid	Quaternary ammonium
Total exchange capacity	1.8 meq/ml	1.0 meq/ml
Ionic conversion	99 % minimum in H form	90 % minimum in OH form
Moisture holding capacity	47 - 55 %	48 -58 % (in Cl form)
Thermal stability	Up to 120^0 C	Up to 60^0 C

Chemical stability	:	Stable in pH range 0 -14
		Resistant to oxidizing and reducing agents

* Weight of resin, as supplied, occupying 1 m^3 in a unit after backwashing and draining.

Variant

MB 12 resin is also available with the additional feature of colour change at exhaustion. Three variants of this colour indicating Indion MB 12 are available :

Indion MB 12 (GVI)	Green to Violet
Indion MB 12 (BYI)	Blue to Yellow
Indion MB 12 (GOI)	Green to Orange

Packing

PVC Jars with inner liner bags	5 / 6 lts
LDPE lined bags	0.5 cft / 1 cft / 25 lts
HDPE lined bags	25 / 50 lts
HDPE drums	50 / 100 / 180 lts

Storage

Ion exchange resins require proper care at all times. Resins must never be allowed to become dry. Resins should therefore be always kept in shade. Since MB 12 is supplied in highly regenerated condition, any exposure to atmospheric air must be avoided as this will convert it to the carbonate form. The resin packing should not be opened during storage.

Safety

Acid and alkali solutions used for regeneration are corrosive and should be handled in a manner that will prevent eye and skin contact. If any oxidising agents are used, necessary safety precautions should be observed to avoid accidents and damage to the resin.

MATERIAL SAFETY DATA SHEET

Revision Date : 01/06/2011

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY

Identification of the substance / preparation :

Product Name	**MB 11, MB 12, MB 115, MB 6SR , RPI, GMW 11(GVI)**
Chemical Name	Crosslinked Polystyrene with Sulphonic acid and quaternary amine functionality
Ionic Form	H^+ / OH^-

Use of the substance/preparation

Main use	Water Purification

Identification of the Company :

Company undertaking Identification	ION EXCHANGE (INDIA) LIMITED
Address	Ion House, Dr. E. Moses Road, Mahalaxmi, Mumbai 400 011.
Telephone	+91(022) 3989 0909
Telefax	+91(022) 2493 8737
Supplier	ION EXCHANGE (INDIA) LIMITED
Address	Ion House, Dr. E. Moses Road, Mahalaxmi, Mumbai 400 011.
Telephone	+91(022) 3989 0909
Telefax	+91(022) 2493 8737

Emergency phone number

Telephone	+91(022) 3989 0909

2. COMPOSITION/INFORMATION ON INGREDIENTS

Description	Concentration
Functionalised co-polymer	40 – 50% (Styrene/divinylbenzene)
Moisture content	50 – 60%

3. HAZARDS IDENTIFICATION

Contact with eyes	Irritating to eyes (R36)
Contact with skin	Mildly irritating to skin.
Ecological hazards	May change the pH of receiving waters in case of major spillages.

4. FIRST AID MEASURES

Contact with skin	Remove contaminated clothing. Remove particles and wash affected area with water.
Contact with eyes	Immediately wash out with plenty of water and remove all particles. Seek medical attention if irritation persists.
Ingestion	Give 200 – 300 ml water to drink. Never give anything by mouth to an unconscious person. Seek immediate medical attention.
Inhalation	Remove patient to fresh air. Seek medical advice.

5. FIRE- FIGHTING MEASURES

Incase of fire, use foam, carbon dioxide or dry agent.
Substance evolves toxic fumes, wear self-contained breathing apparatus (see Section 10).
Wear full protective clothing including chemical protection suit.
Prevent run off water from entering drains if possible.
If polluted water reaches drainage systems or water courses, immediately inform appropriate authorities.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Keep people away. Floor may be slippery, take care to avoid falls.
Environmental precautions	Do not allow to enter public sewers and water courses.
Clean up actions	Sweep-up and transfer to plastic containers for recovery or disposal, according to advise in section 13.

7. HANDLING AND STORAGE

Handling	The usual precautions for handling chemicals should be observed. Risk of static discharge from dry beads.
Storage	

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure controls

No special precautions are required for this product.

Occupational exposure controls

Respiratory protection	Not required for normal operation.
Hand protection	Wear suitable gloves.
Eye protection	Wear safety glasses or goggles. An eyewash facility should be available.
Skin protection	Wear chemical protective overalls.

9. PHYSICAL AND CHEMICAL PROPERTIES

General information	
Appearance	Yellow to brown coloured spherical beads
Physical state	Solid
Odour	No odour
Important information for human health, safety and environment	
pH as supplied	Neutral in aqueous slurry
Boiling point	Not applicable
Flammability point	The preparation starts burning over 230^{o} C only if ignited.
Flammability	The preparation is not flammable before the evaporation of moistening water
Explosive properties	None
Burning properties	None
Specific gravity	1.15, approximately
Solubility	In water : virtually insoluble In oil : insoluble
Partition coefficient n-octonol/water	Not applicable
Viscosity	Not applicable
Flash point	Not applicable
Melting point	Not applicable
Auto-ignition temperature	Over 500^{o} C

10. STABILITYAND REACTIVITY

Conditions to avoid

This material is considered stable under normal conditions.

Materials to avoid

Incompatible with strong oxidizing agents.
Contact with strong oxidizers, especially nitric acid, may produce low molecular weight organics that may form explosive mixtures.

Hazardous decomposition products

Combustion products may include monomers, residual organics, carbon and sulphur oxides.

11. TOXICOLOGICAL INFORMATION

Toxicological Information

LD 50 (Oral, Rat) : Not applicable
LD 50 (dermal, rabbit) : Not applicable
LC50 (inhalation, rat) : Not applicable
Irritation to eyes (rabbit) : Slightly Irritating
Skin corrosion / irritation (rabbit) : No data available
Ignition : No hazards anticipated if material has not exchanged hazardous substances.

Carcinogenicity No evidence of carcinogenic effects.

Teratogenicity No evidence of teratogenic effects.

Mutagenicity No evidence of mutagenic effects.

12. ECOLOGICAL INFORMATION

Ecotoxicity Information not available.

Mobility Virtually insoluble in water.
The product is not volatile.

Persistence and biodegradability The product is not readily biodegradable

Risk of bioaccumulation None

Other adverse effects May change the pH of receiving waters in case of major spillages.

13 DISPOSAL CONSIDERATIONS

The product as delivered is a non-hazardous waste.

The used product may be subject to different classifications. In any case the product shall be disposed off, according to local, regional and national regulations.

EU number for exhausted or saturated ion exchange resins used for the preparation of drinking water or water for industrial use is 19 09 05.
EU number for exhausted or saturated ion exchange resins used in waste water treatment plants not otherwise specialized is 19 08 06.

14. TRANSPORT INFORMATION

Ion exchange resins as supplied are not classified as hazardous for transport.

Classification for ROAD and RAIL transport: Not regulated
(Not dangerous for transport)

Classification for SEA transport: Not regulated
(Not dangerous for transport)

Classification for AIR transport: Not regulated
(Not dangerous for transport)

15. REGULATORY INFORMATION

	The product as supplied is non hazardous.
Risk phrases	R 36 : Irritating to eyes. S 26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S 39 : Wear eye/face protection

16. OTHER INFORMATION

Note :	Industrial grade products are not intended for analytical, food, medical and pharmaceutical applications without preliminary extensive purification.

Whilst every effort has been made to be as accurate as possible, Ion Exchange (India) Limited provides no warranty with respect to this information and disclaims all liability associated with its use.