

M A T E R I A L S A F E T Y D A T A S H E E T

MSDS No 050

Revision No 00

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

Identification of the substance / preparation

Product Name **INDION 454**
Chemical name Crosslinked Polystyrene with quaternary amine functionality
Ionic form Chloride

Use of the substance/preparation

Main use As Pharmaceutical Excipient

Identification of the Company

Company undertaking ION EXCHANGE INDIA LIMITED

Identification

Address Tiecicon House
 Dr. E. Moses Road
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Telephone +91 (022) 3989 0909
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Supplier ION EXCHANGE INDIA LIMITED

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Emergency phone number

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Description	Concentration
Functionalised co-polymer	> 88% (Styrene / divinylbenzene)
Moisture content	< 12 %
CAS number	---
EINECS number	---
R phrases(see section 16)	R 36
Symbols	Xi

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.
Ingestion	Seek medical attention if irritation persists. Give 200 – 300 ml water to drink. Never give anything by mouth to an unconscious person.
Inhalation	Seek immediate medical attention. Remove patient to fresh air. Seek medical advice.

5. FIRE-FIGHTING MEASURES

In case 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.
Environmental precautions	Floor may be slippery, take care to avoid falls.
Clean up actions	Do not allow to enter public sewers and water courses. 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	Store above 0° C. Keep at temperature not exceeding 40° C. Avoid dehydration (when rewetted the resin volume may increase and cause a rupture of the packaging). Keep only in the original container.

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	Off-white coloured powder
Physical state	Solid
Odour	No odour

Important information for human health, safety and environment

pH as supplied	Acidic
Boiling point	Not applicable
Flammability point	The preparation starts burning over 230° C only if ignited.
Flammability	The preparation is not flammable before the evaporation of moistening water
Explosive properties	None
Burning properties	None
Specific gravity	0.76 – 0.80
Solubility	In Water ; virtually insoluble In oil ; insoluble
Partition coefficient n-octanol/water	Not applicable
Viscosity	Not applicable
Flash point	Not applicable
Melting point	Not applicable
Auto-ignition temperature	Over 500° C

10. STABILITY AND 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) : NA
 LD 50 (dermal , rabbit) :Not applicable
 LC50(inhalation , rat) : Not applicable
 Irritation to eyes(rabbit) :Irritant by mechanical and chemical action.
 Irritation to skin(rabbit) : mildly irritating
 Ingestion : 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 special, hazardous waste.
 The used product, fully loaded with non-hazardous ions is a non-hazardous special waste, while the used product loaded with hazardous ions is a hazardous special waste.
 In any case the product shall be disposed of 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.
 The product loaded with hazardous ions is subject to transport regulations for hazardous wastes.

15. REGULATORY INFORMATION

Risk phrases

The product as supplied is classified hazardous.

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 1:

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

Note 2:

This Material Safety Data Sheet has been written to comply with following directives:

67/548/EEC , 88/379/EEC , 91/155/EEC , their revisions and amendments .

R phrases

R 36 : Irritating to eyes

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 it's use.

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