

## MATERIAL SAFETY DATA SHEET

**MSDS No** 049  
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### 1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY

#### Identification of the substance / preparation

**Product Name** **INDION 404**  
**Chemical name** Crosslinked Polystyrene with sulphonic acid functionality  
**Ionic form** Calcium

#### 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  
 Mahalaxmi, Mumbai 400 011.  
**Telephone** +91 (022) 3989 0909  
**Telefax** +91 (022) 2493 8737

**Supplier** ION EXCHANGE INDIA LIMITED

#### Address

Tiecicon 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 | > 92% (Styrene / divinylbenzene) |

**Moisture content** < 8 %

**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

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

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

#### 7. HANDLING AND STORAGE

|                 |                                                                                                                                                                                                                |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Handling</b> | The usual precautions for handling chemicals should be observed.<br>Risk of static discharge from dry beads.                                                                                                   |
| <b>Storage</b>  | Store above 0° C.<br>Keep at temperature not exceeding 40° C.<br>Avoid dehydration (when rewetted the resin volume may increase and cause a rupture of the packaging).<br>Keep only in the original container. |

## 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

|                                       |                                                                             |
|---------------------------------------|-----------------------------------------------------------------------------|
| <b>Exposure controls</b>              | No special precautions are required for this product.                       |
| <b>Occupational exposure controls</b> |                                                                             |
| <b>Respiratory protection</b>         | Not required for normal operation.                                          |
| <b>Hand protection</b>                | Wear suitable gloves.                                                       |
| <b>Eye protection</b>                 | Wear safety glasses or goggles.<br>An eyewash facility should be available. |
| <b>Skin protection</b>                | Wear chemical protective overalls.                                          |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### General information

|                       |                           |
|-----------------------|---------------------------|
| <b>Appearance</b>     | Off-white coloured powder |
| <b>Physical state</b> | Solid                     |
| <b>Odour</b>          | No odour                  |

### Important information for human health, safety and environment

|                                                  |                                                                             |
|--------------------------------------------------|-----------------------------------------------------------------------------|
| <b>pH as supplied</b>                            | Neutral                                                                     |
| <b>Boiling point</b>                             | Not applicable                                                              |
| <b>Flammability point</b>                        | The preparation starts burning over 230° C only if ignited.                 |
| <b>Flammability</b>                              | The preparation is not flammable before the evaporation of moistening water |
| <b>Explosive properties</b>                      | None                                                                        |
| <b>Burning properties</b>                        | None                                                                        |
| <b>Specific gravity</b>                          | 0.84 – 0.86                                                                 |
| <b>Solubility</b>                                | In Water ; virtually insoluble<br>In oil ; insoluble                        |
| <b>Partition coefficient<br/>n-octanol/water</b> | Not applicable                                                              |
| <b>Viscosity</b>                                 | Not applicable                                                              |
| <b>Flash point</b>                               | Not applicable                                                              |
| <b>Melting point</b>                             | Not applicable                                                              |
| <b>Auto-ignition temperature</b>                 | 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) : 17,500 mg/kg of body weight  
 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.**