

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : EXCHANGE RESIN

1. Product and Company Identification

Product name: Exchange Resin
Synonyms: None
Item Numbers: E427-10-800, E427-11-100

European Contact Details

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General enquiries

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2. Composition/Information on Ingredients

Ingredient	% Weight	CAS No	Hazard class*	Risk phrase*
Functionalised styrene/ divinylbenzene copolymer	35-65	Not applicable	Not applicable	R36
Moisture	35-65	Not applicable	Not applicable	Not applicable

*Hazard class & Risk phrase. These columns are only completed for ingredients which are classified as hazardous under EU Directive (67/548/EEC, as amended) and are present in sufficient concentration to make the overall substance hazardous. In all other situations, the column will be completed as "Not applicable".

3. Hazards Identification

EMERGENCY OVERVIEW

This dried resin product may cause eye or skin irritation, but when properly handled according to good working and hygienic practices is not dangerous to human health. Combustion products may include monomers, organics, carbon oxides and amines, nitrogen oxides and sulphur oxides.

For short and long term exposure effects see Section 11 Toxicological data.

Eye Effects: May cause irritation.
Skin Effects: May cause mild irritation.
Ingestion/Oral Effects: Practically non-harmful.
Inhalation Effects: Dust hazard only.

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MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.

NFPA Hazard codes		HMIS Hazard codes		Rating System
Health	2	Health	2	0 = No Hazard
Flammability	1	Flammability	1	1 = Slight Hazard
Instability	1	Reactivity	1	2 = Moderate Hazard
				3 = Serious Hazard
				4 = Severe Hazard

4. First Aid Measures

- Eyes: Flush with plenty of water to remove all particles. If irritation persists, seek medical attention.
- Skin: Remove any particles and wash with soap and water.
- Ingestion/Oral: Wash out mouth with water and give affected person 200 to 300 ml of water to drink. Never give anything by mouth to an unconscious person. Seek immediate medical attention.
- Inhalation: If high concentrations of dust are inhaled, remove to fresh air. A suitably qualified person should administer oxygen or artificial respiration as indicated. Seek medical attention.
- Other Information: None.

5. Fire Fighting Measures

- Extinguishing Media: Carbon dioxide, foam, dry powder.
- Fire and Explosion Hazard: Combustion products may include monomers, residual organics, carbon oxides and amines, nitrogen oxides and sulphur oxides. Explosion may occur if the material comes into contact with nitric acid or strong oxidizers.
- Special Protective Equipment for Fire Fighters: Fire fighters should wear a self-contained breathing apparatus (SCBA) and full protective gear.

For Flammability Properties - see Section 9

6. Accidental Release Measures

- Isolate the area of the spill. Wear appropriate protective equipment (See Section 8).
- Spilled material may cause floors to be slippery. Take care to avoid falls.
- Sweep up the spilled material and transfer to suitable containers for recovery or disposal: see Section 13.
- Prevent the material entering drains, sewers or watercourses.

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7. Handling and Storage

Handling: Wear suitable protective equipment (see Section 8). No other special measures are required, however note that static charges may accumulate in the material. Prevent contact with materials sensitive to static discharge.

Storage: Store in a well ventilated place, between 0 and 40 °C (32 and 104 °F). May evolve hazardous amines above 50 °C (122 °F). Avoid freezing. Avoid dehydration: when rehydrated, the volume of the material may increase and rupture its packaging.

8. Exposure Controls/Personal Protection

Exposure Limits:

Ingredient	ACGIH - TLV -	OSHA - PEL	Occupational Exposure Limits EH40 (UK)
None	Not applicable	Not applicable	Not applicable

Personal Protection:

Engineering Measures: No special ventilation is required.

Respiratory Protection: No respiratory protection is required for normal use.

Hand/Skin Protection: Wear suitable gloves and protective overalls.

Eye/Face Protection: Wear safety goggles. Ensure an eyewash facility is available.

Hygiene Measures: Practice good workplace hygiene. Do not eat or smoke when handling. Wash thoroughly after handling, before meals, breaks, and leaving the work area.

Other/General Protection: None.

9. Physical and Chemical Properties

Appearance and Odour	White/cream/amber/brown beads, odourless	Boiling point	Not applicable	°C/°F
pH (as supplied)	No data available	Freezing Point	Not applicable	°C/°F
Solubility in Water	Virtually insoluble	Auto Ignition	> 500 / 932	°C/°F
Volatile Content by Volume	Not applicable	Flash Point	Not applicable	°C/°F
Specific Gravity	1.05 to 1.28 (in water)			
Vapour Pressure (mbar)	No data available	Vapour Pressure (Torr)	No data available	

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10. Stability and Reactivity

Stability:	Stable under normal conditions of use. Anion exchangers may give off amine vapours at temperatures > 50 °C (122 °F).
Material/Conditions to Avoid:	Avoid contact with nitric acid and strong oxidizers, due to the risk of explosion.
Hazardous Decomposition:	Combustion products may include monomers, residual organics, carbon oxides and amines, nitrogen oxides and sulphur oxides. Dried resins start to burn at 230 °C (446 °F).
Hazardous Polymerisation:	Will not occur.

11. Toxicological Information

For a comprehensive description for the various toxicological (health) effects which may arise if the user comes into contact with the substance or preparation refer to Section 3 Hazards Identification.

Animal data:

LD50 value:	Oral: >5000 mg/kg (rat)	Dermal: Not available
LC50 value:	Not applicable	

Carcinogenicity:

No known carcinogenic effects.

12. Ecological Information

The material has low ecotoxicity because it is virtually insoluble in water. The material is not readily biodegradable. If it enters a watercourse, the material may change the pH of the water: inform the appropriate authorities of major spills.

WGK: 1.

13. Disposal Considerations

As supplied, the material is classified as special, hazardous waste. Used material fully loaded with non-hazardous ions is classified as a non-hazardous special waste. Used material loaded with hazardous ions is classified as a special hazardous waste.

Dispose of new/used material in accordance with its classification and with all local and national disposal safety regulations.

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14. Transport Information

This material as supplied is not classified as dangerous under transport regulations.

PARAMETER	EUROPEAN	CANADIAN TDG	UNITED STATES DOT
Proper Shipping Name	Not applicable	Not applicable	Not applicable
Hazard Class	Not applicable	Not applicable	Not applicable
Identification Number	Not applicable	Not applicable	Not applicable
Shipping Label	Not applicable	Not applicable	Not applicable

Used material contaminated by hazardous ions is subject to transport regulations for hazardous wastes.

15. Regulatory Information

European Regulatory Information

This product has been classified in accordance with the Dangerous Substances Directive (67/548/EEC, as amended) and the Preparations Directive (88/379/EEC, as amended), implemented in the UK as the Chemical (Hazard Information and Packing) Regulations 1994 (CHIP, as amended).

Classified as dangerous to supply : Yes

Risk Phrases : R36 - Irritating to eyes

Safety Phrases : S26 - In case of contact with eyes, rinse immediately with plenty of water and
and seek medical advice

S39 - Wear eye/face protection

Symbols : Xi - Irritant

United States Regulatory Information

All materials contained in this product are listed on the U.S. Toxic Substances Control Act (TSCA).

SARA TITLE III - SECTION 313 SUPPLIER NOTIFICATION:

This product does not contain toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 and 40 CFR Part 372.

California Proposition 65: This product does not contain chemicals known to the State of California to cause cancer or reproductive toxicity.

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

Canadian Regulatory Information

WHMIS Classification: D2B

All ingredients in this product are included in the Canadian DSL.

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16. Other Information

This MSDS is compiled in accordance with ANSI Z400.1 and the EU Safety Data Sheet Directive 91/155/EEC.

Sources of information for this data sheet:

- "Purolite International Material Safety Data Sheet Number18. Revision No. : 00. First issue date: 08 September 2003.

Glossary:

ACGIH - American Conference of Governmental Industrial Hygienists; **ANSI** - American National Standards Institute; **Canadian TDG** - Canadian Transportation of Dangerous Goods; **CAS** - Chemical Abstracts Service; **Chemtrec** - Chemical Transportation Emergency Center (US); **CHIP** - Chemical (Hazard Information and Packing); **DSL** - Domestic Substances List; **EH40 (UK)** - HSE Guidance Note EH40 Occupational exposure limits; **EPCRA** - Emergency Planning and Community Right-to-Know Act; **HMIS** - Hazardous Material Information Service; **LC** - Lethal Concentration; **LD** - Lethal Dose; **NFPA** - National Fire Protection Association; **OSHA** - Occupational Safety and Health Administration, US department of Labour; **PEL** - Permissible exposure limit; **SARA (Title III)** - Superfund Amendments and Reauthorization Act; **SARA 313** - Superfund Amendments and Reauthorization Act, Section 313; **SCBA** - Self-Contained Breathing Apparatus; **TLV** - threshold limit value; **TSCA** - Toxic Substances Control Act Public Law 94-469; **US DOT** - US Department of Transportation; **WHMIS** - Workplace Hazardous Materials Information System; **WGK** - Wassergefährdungsklasse (German Water Hazard Classification).

Revisions:

Nov 2007 - Data Sheet updated to reflect the latest supplier safety information.

Although the information and recommendations in this data sheet are to the best of our knowledge correct, it is recommended that you make your own determination of the material's suitability for your purpose before you use it. The information contained in this data sheet has been reproduced from the manufacturers data; the accuracy of this information is the responsibility of the manufacturer. Edwards accept no responsibility for damage of any nature resulting from the use of, or the reliance upon, this data sheet.