

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : GRC C150A CARTRIDGE (Unused)

1. Product and Company Identification

Product name: GRC Cartridges C150A, Unused

Synonyms: None

Item Number: C150A Pack of 1 = A223-04-115

The information in this data sheet refers to an unused GRC cartridge as supplied by Edwards. Refer to the relevant GRC product manual for information on the handling, disposal, etc. of used GRC cartridges.

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2. Hazards Identification

EMERGENCY OVERVIEW

The cartridges, when properly handled according to good working and hygienic practices, are not dangerous to human health and the environment.

For short and long term exposure effects, refer to Section 11 Toxicological Information.

Eye Effects: None in normal use. Contact with catalytic granules/dust may cause severe eye irritation and damage the eyes.*

Skin Effects: None in normal use. Contact with catalytic granules/dust may cause severe skin irritation and damage the skin.*

Ingestion/Oral Effects: None in normal use. Ingestion of catalytic granules/dust may cause severe irritation and damage to the mouth, throat and digestive tract.*

Inhalation Effects: None in normal use. Inhalation of catalytic granules/dust may cause severe respiratory irritation and damage the respiratory tract.*

* Contact with granules can only occur if the cartridge is damaged or opened. The granules are basic in nature.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.

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

3. Composition/Information on Ingredients

Each cartridge comprises a proprietary mixture of catalytic granules, sealed within a stainless steel welded vessel.

Ingredient	% Weight	CAS No	Hazard class*	Risk phrase*
Granules	50	Not allocated	Not applicable	Not applicable
Stainless Steel	50	Not allocated	Not applicable	Not applicable

*Hazard class & Risk phrase. These columns are only completed for ingredients which are classified as hazardous under EU Directive No 1272/2008 (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".

4. First Aid Measures

- Eyes:** No effects requiring first aid are expected during normal use. In case of contact with granules/dust, flush the eyes with plenty of water. If irritation arises, seek medical attention.
- Skin:** No effects requiring first aid are expected during normal use. In case of contact with granules/dust, wash the skin with plenty of water. If irritation arises, seek medical attention.
- Ingestion/Oral:** No effects requiring first aid are expected during normal use. In case of ingestion of granules/dust, wash out the mouth with plenty of water and immediately seek medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.
- Inhalation:** No effects requiring first aid are expected during normal use. In case of inhalation of granules/dust, remove the patient to fresh air. If breathing problems arise, a suitably qualified individual should administer oxygen or artificial respiration as necessary; seek immediate medical attention.
- Other Information:** None.

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5. Firefighting Measures

Extinguishing Media: Not applicable (Cartridge does not contain combustible substances).

Fire and Explosion Hazard: None.

Special Protective Equipment for Firefighters: Not applicable.

For Flammability Properties - refer to Section 9.

6. Accidental Release Measures

Accidental spillage is not possible because active ingredients are sealed within a welded stainless steel container.

7. Handling and Storage

Handling: There are no special chemical handling requirements because active ingredients are sealed within the cartridge.
The cartridge is heavy and requires 2 persons (or a suitable mechanical lifting aid) to lift it safely.

Storage: Store in a dry, well ventilated space.

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: Suitable mechanical lifting aids are needed for one person to safely lift a cartridge. Eye/skin washing facilities should be provided where there is the possibility of contact with granules/dust.

Respiratory Protection: None needed during normal use.*

Hand/Skin Protection: None needed during normal use.*

Eye/Face Protection: None needed during normal use.*

Hygiene Measures: Practice good workplace hygiene. Do not eat or smoke when handling. Wash hands after use and before eating.

Other/General Protection: * If a cartridge is to be cut open or changed, respiratory protection (Filter P3, DIN3181), eye protection and impervious gloves should be used.

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9. Physical and Chemical Properties

Appearance and Odour	Stainless steel cylinder. No odour	Boiling Point	Granules-2860/5150	°C/°F
pH (as supplied)	Neutral (contents of cylinder are basic)	Freezing Point	Granules-2614/4707	°C/°F
Solubility in Water	Not soluble	Auto Ignition	Not applicable	°C/°F
Volatile Content by Volume	Not applicable	Flash Point	Not applicable	°C/°F
Specific Gravity	No data available			
Vapour Pressure (mbar)	Not applicable	Vapour Pressure (Torr)	Not applicable	

10. Stability and Reactivity

Stability:	Stable.
Material/Conditions to Avoid:	Moist /wet conditions.
Hazardous Decomposition:	None.
Hazardous Polymerisation:	Will not occur.

11. Toxicological Information

For a comprehensive description of the various toxicological (health) effects which may arise if the user comes into contact with the substance or preparation, refer to Section 2 Hazards Identification.

Animal data:

LD50 value:	Not applicable.
LC50 value:	Not applicable.

Carcinogenicity:

Catalytic granules contain Nickel Monoxide which is categorised as carcinogen by EU.

Nickel compounds are listed as carcinogenic to humans (Group 1) by IARC. Nickel oxide is listed as “known to be carcinogenic” by NTP.

12. Ecological Information

The granules are not readily soluble in water.
The granules contain Nickel so prevent their release into the environment.

13. Disposal Considerations

Disposal must be by special means, in accordance with all local and national requirements.

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14. Transport Information

This product 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

15. Regulatory Information

European Regulatory Information

This product has been classified in accordance with EU Regulation No 1272/2008 (as amended) on the Classification, Labelling and Packaging of Substances and Mixtures.

Classified as dangerous to supply: No.

Risk Phrases: Not applicable.

Safety Phrases: Not applicable.

Symbols: None.

United States Regulatory Information

Product is a manufactured article not subject to TSCA listing.

SARA TITLE III - SECTION 313 SUPPLIER NOTIFICATION:

This product constitutes an "article" and, as such is exempt from SARA 313 REPORTING REQUIREMENTS (40 CFR Part 372.38, Paragraph B).

California Proposition 65: This product contains chemicals known to the State of California to cause cancer or reproductive toxicity. (refer to Section 11 for more information).

OSHA Regulatory Status: Under normal conditions and use, this product is not classified as hazardous by OSHA regulations.

Canadian Regulatory Information

WHMIS Classification: Not applicable.

Product is a manufactured item not subject to DSL listing.

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16. Other Information

This MSDS is compiled in accordance with ANSI Z400.1 and Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Glossary:

ACGIH - American Conference of Governmental Industrial Hygienists; **ANSI** - American National Standards Institute; **Canadian TDG** - Canadian Transportation of Dangerous Goods; **CAS** - Chemical Abstracts Service; **CFR** - Code of Federal Regulations; **Chemtrec** - Chemical Transportation Emergency Center (US); **CHIP** - Chemical (Hazard Information and Packing); **DSL** - Domestic Substances List; **EEC** - European Economic Community; **EH40 (UK)** - HSE Guidance Note EH40 Occupational Exposure Limits; **EPCRA** - Emergency Planning and Community Right-to-Know Act; **EU** - European Union; **HMIS** - Hazardous Material Information Service; **LC** - Lethal Concentration; **LD** - Lethal Dose; **NFPA** - National Fire Protection Association; **NTP** - National Toxicology Program; **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; **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.

Revisions:

April 2010 - Data Sheet updated to reflect the latest supplier safety information and the latest regulatory 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.