



## SAFETY DATA SHEET

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### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

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#### 1.1 Product identifier

**Product name** ACIRS-EC-yyyy (WHERE yyyy=year)  
**Synonym(s)** ELECTRODE CARBON • INERT CARBONACEOUS ADDITIVE (FOR USE IN GRAY-KING COKE TYPE ANALYSIS)

#### 1.2 Uses and uses advised against

**Use(s)** LABORATORY ANALYSIS

#### 1.3 Details of the supplier of the safety data sheet

**Supplier name** AUSTRALIAN COAL PREPARATION SOCIETY - ACIRS  
**Address** 76 Broadmeadow Road, Broadmeadow, NSW, 2292, AUSTRALIA  
**Telephone** 02 4926 4870  
**Email** [acpsnational@acps.com.au](mailto:acpsnational@acps.com.au)  
**Website** [www.acps.com.au](http://www.acps.com.au)

#### 1.4 Emergency telephone number(s)

**Emergency** 13 11 26

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### 2. HAZARDS IDENTIFICATION

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#### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

#### 2.2 Label elements

**Signal word**

None allocated.

**Pictograms**

None allocated.

**Hazard statement(s)**

None allocated.

**Prevention statement(s)**

None allocated.

**Response statement(s)**

None allocated.

**Storage statement(s)**

None allocated.

**Disposal statement(s)**

None allocated.

#### 2.3 Other hazards

No information provided.

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### 3. COMPOSITION/ INFORMATION ON INGREDIENTS

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#### 3.1 Substances / Mixtures

**PRODUCT NAME ACIRS-EC-YYYY (WHERE YYYY=YEAR)**

Ingredient	Identification	Classification		Content
SULFUR	CAS: 7704-34-9 EC: 231-722-6	Skin Irrit. 2, H315	Xi;R38	<5%
TRISODIUM HEXAFLUOROALUMINATE	CAS: 15096-52-3 EC: 239-148-8	STOT RE 1, H372 Aquatic Chronic 2, H411 Acute Tox. 4, H302 Acute Tox. 4, H332	Xn;R20/22 T;R48/23/25 N;R51/53	<1%
PETROLEUM COKE (CALCINED)	CAS: 64743-05-1 EC: 265-210-9			70 to 90%
ALUMINIUM OXIDE	CAS: 1344-28-1 EC: 215-691-6			<5%
IRON OXIDE	CAS: 1332-37-2 EC: 215-570-8			<2%
CALCIUM CRYOLITE	CAS: 39818-95-6			<1%
FLUORIDE	CAS: 16984-48-8			<1%

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**4. FIRST AID MEASURES**

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**4.1 Description of first aid measures**

<b>Eye</b>	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
<b>Inhalation</b>	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
<b>Skin</b>	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
<b>Ingestion</b>	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form.
<b>First aid facilities</b>	No information provided.

**4.2 Most important symptoms and effects, both acute and delayed**

No information provided.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

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**5. FIRE FIGHTING MEASURES**

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**5.1 Extinguishing media**

Water fog. Prevent contamination of drains or waterways.

**5.2 Special hazards arising from the substance or mixture**

Combustible. May evolve toxic gases (carbon/ sulfur oxides, hydrocarbons) when heated to decomposition.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

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**6. ACCIDENTAL RELEASE MEASURES**

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**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in Section 8 of this SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Collect solid and place in sealable containers for re-use or disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

**7. HANDLING AND STORAGE**

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas. This material is for use in Gray-King coke type testing which is to be conducted in a fume cupboard with mechanical extraction operating.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

**7.3 Specific end use(s)**

No information provided.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**8.1 Control parameters**

**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Aluminium oxide (a)	SWA (AUS)	--	10	--	--
Fluorides, as F	SWA (AUS)	--	2.5	--	--
Iron oxide fume (Fe <sub>2</sub> O <sub>3</sub> ) (as Fe)	SWA (AUS)	--	5	--	--

**Biological limits**

Ingredient	Reference	Determinant	Sampling Time	BEI
FLUORIDE	ACGIH BEI	Fluoride in urine	Prior to shift	2 mg/L
	ACGIH BEI	Fluoride in urine	End of shift	3 mg/L

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

**PPE**

- Eye / Face** Wear dust-proof goggles.
- Hands** Wear PVC or rubber gloves.
- Body** Not required under normal conditions of use.
- Respiratory** Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. At high dust levels, wear a Full-face Class P3 (Particulate) respirator.



**9. PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties**

Appearance	BLACK POWDER
Odour	ODOURLESS
Flammability	COMBUSTIBLE
Flash point	NOT AVAILABLE

**9.1 Information on basic physical and chemical properties**

<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	NOT AVAILABLE
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	NOT AVAILABLE
<b>Solubility (water)</b>	INSOLUBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT AVAILABLE
<b>Lower explosion limit</b>	NOT AVAILABLE
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	NOT AVAILABLE
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**10. STABILITY AND REACTIVITY**

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization will not occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (eg. hypochlorites), acids (eg. nitric acid), heat and ignition sources.

**10.6 Hazardous decomposition products**

Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of nitrogen and sulfur may also be formed.

**11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

**Acute toxicity** No toxicological information is available for the product. Toxicity data for ingredients is provided below.

SULFUR (7704-34-9)  
 LC50 (inhalation) 1660 mg/m<sup>3</sup> (mammal)  
 LDLo (ingestion) 175 mg/kg (rabbit)

TRISODIUM HEXAFLUOROALUMINATE (15096-52-3)  
 LD50 (ingestion) > 5 g/kg (rat)  
 LDLo (ingestion) 9 g/kg (rabbit)

CALCIUM CRYOLITE (39818-95-6)  
 LD50 (ingestion) > 5g/kg (rat)  
 LDLo (ingestion) 9g/kg (rabbit)

FLUORIDE (16984-48-8)  
 LD50 (intravenous) 22800 ug/kg (mouse)  
 LDLo (ingestion) 50 mg/kg (human)  
 TDLo (ingestion) 3 mg/kg (human)

**Skin** Not classified as a skin irritant. Prolonged or repeated contact with dusts may be abrasive and mildly irritating to the skin.

**PRODUCT NAME ACIRS-EC-YYYY (WHERE YYYY=YEAR)**

<b>Eye</b>	Not classified as an eye irritant. However, dusts may be abrasive and irritating to the eyes.
<b>Sensitization</b>	This product is not known to be a skin or respiratory sensitiser.
<b>Mutagenicity</b>	Insufficient data available to classify as a mutagen.
<b>Carcinogenicity</b>	Not expected to cause cancer. Lifetime skin painting studies in mice in which petroleum coke was applied as a 25% mineral oil solution were negative.
<b>Reproductive</b>	Not expected to cause reproductive toxicity. A reproductive/developmental toxicity screening study of green coke in rats did not demonstrate effects on fertility or reproductive performance at concentrations of 30, 100, and 300 mg/m3.
<b>STOT – single exposure</b>	Not expected to cause organ effects from single exposure.
<b>STOT – repeated exposure</b>	Not expected to cause organ effects from repeated exposure. Low concentrations of airborne respiratory coke fibers may be present in calcined coke. The fibers are amorphous and generally irregularly shaped, rather than having the crystalline appearance of carbon fibers. Coke fibers have not been studied, but recent laboratory animal studies have shown that carbon fibers are biopersistent in the lung. These studies also demonstrated a lower inflammatory response in the lung and less proliferation of the alveolar cells than fibers that are known to cause fibrosis and lung cancer. Repeated exposure of rats to 10 and 30 mg/m3 petroleum coke dust for two years resulted in signs of lung injury including fibrosis (scarring of lung tissue). Similar exposures in monkeys caused no significant lung effects.
<b>Aspiration</b>	This product is a solid and aspiration hazards are not expected to occur.

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## 12. ECOLOGICAL INFORMATION

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### 12.1 Toxicity

Acute toxicity studies on samples of petroleum coke show that acute aquatic toxicity values are greater than 1000 mg/L for invertebrates, algae and fish. Elemental carbon, which is the principal constituent of petroleum cokes, poses no risk to aquatic organisms. Residual hydrocarbon concentrations are very low and have a high molecular weight. Such hydrocarbons are too water insoluble to cause acute aquatic toxicity. Therefore petroleum coke is unlikely to pose a long-term hazard to the environment.

### 12.2 Persistence and degradability

Petroleum cokes are not expected to meet the criteria for ready degradability. Elemental carbon and hence, petroleum coke is a persistent material. Also, any associated very high molecular weight hydrocarbons would only be very slowly biodegraded

### 12.3 Bioaccumulative potential

Elemental carbon is not known to bioaccumulate. The very high molecular weight of any associated hydrocarbons, combined with their very low water solubilities, indicate that they are not likely to bioaccumulate. The trace hydrocarbon components of petroleum cokes have values for log Kow greater than 6.

### 12.4 Mobility in soil

The hydrocarbon components of petroleum cokes have negligible vapor pressures at ambient temperature and volatility is not a significant fate process for these substances.

### 12.5 Other adverse effects

None anticipated.

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## 13. DISPOSAL CONSIDERATIONS

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### 13.1 Waste treatment methods

<b>Waste disposal</b>	Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer if additional information is required.
<b>Legislation</b>	Dispose of in accordance with relevant local legislation.

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## 14. TRANSPORT INFORMATION

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NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 UN proper shipping name</b>	None Allocated	None Allocated	None Allocated

**14.3 Transport hazard classes**

DG class	None Allocated	None Allocated	None Allocated
Subsidiary risk(s)	None Allocated	None Allocated	None Allocated

**14.4 Packing group** None Allocated None Allocated None Allocated

**14.5 Environmental hazards** None Allocated

**14.6 Special precautions for user**

Hazchem code None Allocated

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**15. REGULATORY INFORMATION**

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**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** None allocated.

**Risk phrases** None allocated.

**Safety phrases** None allocated.

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

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**16. OTHER INFORMATION**

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**Additional information** PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:  
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:  
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**PRODUCT NAME ACIRS-EC-YYYY (WHERE YYYY=YEAR)**

<b>Abbreviations</b>	ACGIH	American Conference of Governmental Industrial Hygienists
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	GHS	Globally Harmonized System
	IARC	International Agency for Research on Cancer
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m <sup>3</sup>	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	PEL	Permissible Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
	STEL	Short-Term Exposure Limit
	STOT-RE	Specific target organ toxicity (repeated exposure)
	STOT-SE	Specific target organ toxicity (single exposure)
	SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
	SWA	Safe Work Australia
	TLV	Threshold Limit Value
	TWA	Time Weighted Average

**Revision history**

Revision	Description
1.0	Initial SDS Creation

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**