SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name **AUSTRALIAN COAL INDUSTRY REFERENCE SAMPLE**

Synonyms ACIRS GX-YYYY, ACIRS-SXA-YYYY, ACIRS-SXB-YYYY, ACIRS-SXCX-YYYY ● ACIRS-SXD-YYYY, ACIRS-HX-YYYY, ACIRS-MX-YYYY, WHERE X = BATCH NO. AND YYYY = YEAR. ● CERTIFIED REFERENCE MATERIALS FOR HARDGROVE GRINDABILITY INDEX ● GENERAL COAL REFERENCE MATERIAL ● SULFUR REFERENCE MATERIAL ● TRACE ELEMENTS IN COAL REFERENCE MATERIAL

1.2 Uses and uses advised against

Uses LABORATORY ANALYSIS

1.3 Details of the supplier of the product

Supplier name **AUSTRALIAN COAL PREPARATION SOCIETY - ACIRS**

Address 76 Broadmeadow Rd, Broadmeadow, NSW, 2292, AUSTRALIA

Telephone 02 4926 4870

Email acpsnational@acps.com.au

Website http://www.acps.com.au

1.4 Emergency telephone numbers

Emergency 13 11 26

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Physical Hazards

Not classified as a Physical Hazard

Health Hazards

Specific Target Organ Toxicity (Repeated Exposure): Category 2

Environmental Hazards

Not classified as an Environmental Hazard

2.2 GHS Label elements

Signal word **WARNING**

Pictograms

Hazard statements

H373 May cause damage to organs through prolonged or repeated exposure.

Prevention statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

Response statements

None allocated.

Storage statements
None allocated.

Disposal statements
None allocated.

2.3 Other hazards
No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
COAL	-	-	>90%
QUARTZ (CRYSTALLINE SILICA)	14808-60-7	807-338-5	1 to 10%

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye 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.

Inhalation If irritation or discomfort exists, remove the exposed individual to fresh air. Blow nose to clear breathing passages and rinse mouth with water. Recovery should be rapid after removal from exposure. If other than minor symptoms are displayed, seek immediate medical attention. May aggravate pre-existing respiratory conditions such as bronchitis or asthma due to nuisance dust nature. Due to the potential to cause coal worker's pneumonconiosis, medical surveillance involving spirometry and/or chest x-ray is often mandated where exposures are likely to exceed the respirable crystalline silica occupational exposure limit.

Skin Wash exposed skin for hygienic purposes. Seek medical attention if irritation develops. May aggravate pre-existing skin conditions.

Ingestion Not a normal route of exposure due to product form. Ingestion may cause irritability of the digestive system. Give a drink of water. Do not make a semi-conscious or unconscious person vomit. If signs or symptoms develop, get medical attention.

First aid facilities None allocated.

4.2 Most important symptoms and effects, both acute and delayed
Chronic exposure to coal dust has the potential to cause Coal Workers Pneumoconiosis (CWP) (a respiratory disorder) and may progress to progressive fibrosis (ie scarring of the lungs).

4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media
For small fires, use dry chemical, sand, earth, water spray or regular foam. For large fires involving coal dust, use water spray, fog, regular foam or CO2. Water is effective on shallow layers, but may intensify deep-seated fire in large storage areas. Exposed fire fighters should wear approved pressure demand and self-contained breathing apparatus (SCBA), with full-face mask and full protective equipment. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Use water fog to cool intact pressure containers and nearby storage areas.

5.2 Special hazards arising from the substance or mixture
Combustible. Contact with strong oxidising agents (ozone, chlorine, liquid oxygen) may result in fire. May evolve toxic gases (carbon/ nitrogen/ sulphur oxides, hydrocarbons) when heated to decomposition. Dust may form explosive mixtures with air.

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. Difficult to extinguish once burning.

5.4 Hazchem code
None allocated.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

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. Showering at the end of the working day is recommended. Launder contaminated clothing before reuse. Encourage no eating, drinking or smoking when handling this material.

7.2 Conditions for safe storage, including any incompatibilities
Store in a dry, well ventilated area, removed from incompatible materials/conditions and foodstuffs. Spontaneous combustion may occur under storage conditions of elevated temperatures and a continuous supply of oxygen.

7.3 Specific end uses
No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters
Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m³	ppm	mg/m³
Coal dust (containing < 5% quartz)	SWA [AUS]	--	1.5	--	--
Quartz (respirable dust)	SWA [AUS]	--	0.05	--	--
Quartz (respirable dust)	SWA [Proposed]	--	0.05	--	--
Quartz (respirable dust) (Precautionary advice)	WorkSafe VIC	--	0.02	--	--

Biological limits
No biological limit values have been entered for this product.

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

PPE

Eye / Face	At high dust levels, wear dust-proof goggles.
Hands	Wear PVC or rubber or cotton gloves.
Body	When using large quantities or where heavy contamination is likely, wear coveralls.
Respiratory	Where an inhalation risk exists, wear a Class P1 (particulate) / N95 respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	BLACK POWDER (COAL)
Odour	ODOURLESS
Flammability	COMBUSTIBLE
Flash point	NOT AVAILABLE
Boiling point	NOT AVAILABLE
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	NOT AVAILABLE
Vapour density	NOT AVAILABLE
Relative density	1.2 to 1.8
Solubility (water)	INSOLUBLE
Vapour pressure	NOT RELEVANT
Upper explosion limit	NOT AVAILABLE
Lower explosion limit	NOT AVAILABLE
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

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

Contact with oxidising agents (e.g. ozone, chlorine, liquid oxygen), acids and metals may cause a fire.

10.6 Hazardous decomposition products

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

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity	No known toxicological effects from this product. Based on available data, the classification criteria are not met.
Skin	Prolonged or repeated contact may cause irritation, and possibly skin rash, due to the abrasiveness of coal.
Eye	Where dusts are generated, irritation and lacrimation (watering of the eyes) may occur, or in more severe cases, abrasive action may cause damage to the outer surface of the eye.
Sensitisation	Not classified as causing skin or respiratory sensitisation.
Mutagenicity	Insufficient data available to classify as a mutagen.
Carcinogenicity	Coal contains a small amount of silica (quartz). Crystalline silica is classified as carcinogenic to humans (IARC Group 1). However, IARC have also concluded that there was inadequate evidence in humans and in experimental animals for the carcinogenicity of coal dust and that coal dust cannot be classified as to its carcinogenicity to humans (Group 3).
Reproductive	Insufficient data available to classify as a reproductive toxin.
STOT - single exposure	Not classified as causing organ damage from single exposure.

STOT - repeated exposure Chronic exposure to coal dust has the potential to cause Coal Workers Pneumoconiosis (CWP) (a respiratory disorder) and may progress to progressive fibrosis (ie scarring of the lungs). This condition results in the production of a black sputum, bronchitis and emphysema. CWP is a benign condition that is a precursor for a more complicated disease, Progressive Massive Fibrosis (PMF) (ie scarring of the lungs). The potential for respiratory disease increases with concentration of respirable crystalline silica dust and duration of exposure.

Aspiration Not relevant.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Not available, but considered very low in natural form - there are no water quality criteria for coal or coal dust.

12.2 Persistence and degradability

Not relevant for naturally occurring fossilised minerals.

12.3 Bioaccumulative potential

Not relevant for naturally occurring fossilised minerals.

12.4 Mobility in soil

Not relevant for naturally occurring fossilised minerals.

12.5 Other adverse effects

Coal itself is persistent in the environment (being of low degradability), but is of very low ecotoxicity and mobility. When burnt (e.g. in coal-fired power stations) coal has a number of ecological impacts such as; contribution to green house gases, stored fly ash and bottom ash produced can contribute to elevated levels of selenium in natural waters, acidic sulphur and nitrogen oxides derived from a range of sources included coal-fired power stations and industrial plants fuelled by fossil fuels contribute to acid deposition and depending on the exact composition of the coal, it may also evolve coal ash decomposition products such as mercury, arsenic, selenium, cadmium and lead.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal Reuse where possible. Ensure product sprayed with water to prevent dust generation. Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required). Coal is not classified as a hazardous waste. Dispose of in an approved landfill or incinerate according to national and local standards.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

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)
14.1 UN Number	None allocated.	None allocated.	None allocated.
14.2 Proper Shipping Name	None allocated.	None allocated.	None allocated.
14.3 Transport hazard class	None allocated.	None allocated.	None allocated.
14.4 Packing Group	None allocated.	None allocated.	None allocated.

14.5 Environmental hazards

No information provided.

14.6 Special precautions for user

Hazchem code None allocated.

15. REGULATORY INFORMATION

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 Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

Inventory listings **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**
All components are listed on AIIC, or are exempt.

16. OTHER INFORMATION

Additional information

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.

EXPOSURE STANDARDS - TIME WEIGHTED AVERAGES: Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: Strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, 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: form of product; 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 report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

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
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
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

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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