SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name **SODIUM CYANIDE**

Synonyms CYANIDE OF SODIUM ● HYDROCYANIC ACID, SODIUM SALT

1.2 Uses and uses advised against

Uses INDUSTRIAL APPLICATIONS ● LABORATORY REAGENT ● METAL TREATMENT ● SURFACE FINISHING

1.3 Details of the supplier of the product

Supplier name **DUBOIS CHEMICALS AUSTRALIA PTY LIMITED**

Address 305 Frankston Dandenong Rd, Dandenong South, VIC, 3175, AUSTRALIA

Telephone (03) 9768 3860

Email sales@duboischemicals.com.au

Website http://duboischemicals.com.au/

1.4 Emergency telephone numbers

Emergency 13 11 26 (Poisons Information Centre)

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

Acute Toxicity: Oral: Category 2
Acute Toxicity: Skin: Category 1
Skin Corrosion/Irritation: Category 2
Acute Toxicity: Inhalation: Category 2
Contact with water liberates toxic gas.
Contact with acids liberates very toxic gas.

Environmental Hazards

Aquatic Toxicity (Chronic): Category 1

2.2 GHS Label elements

Signal word **DANGER**

Pictograms

Hazard statements

AUH029	Contact with water liberates toxic gas.
AUH032	Contact with acids liberates very toxic gas.
H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H315	Causes skin irritation.
H330	Fatal if inhaled.
H410	Very toxic to aquatic life with long lasting effects.

Prevention statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P284	Wear respiratory protection.

Response statements

P302 + P352	IF ON SKIN: Wash with plenty of water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTRE or doctor/physician.
P320	Specific treatment is urgent - see first aid instructions.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P361 + P364	Take off immediately all contaminated clothing and wash it before reuse.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.

Storage statements

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal statements

P501	Dispose of contents/container in accordance with relevant regulations.

2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
SODIUM CYANIDE	143-33-9	205-599-4	98%
ADDITIVE(S)	-	-	Remainder

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 inhaled, remove from contaminated area. Apply artificial respiration if not breathing. Do not give direct mouth-to-mouth resuscitation. To protect rescuer, use air-viva, oxy-viva or one-way mask. Resuscitate in a well-ventilated area.

Skin 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.

Ingestion For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Urgent hospital treatment is likely to be needed.

First aid facilities Eye wash facilities and safety shower should be available.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms include nausea, vomiting, headache, dyspnoea, increased respiratory rate, hypertension, tachycardia, altered level of consciousness and seizures. High level exposure results in hypotension, bradycardia, respiratory depression, cardiovascular collapse and coma.

4.3 Immediate medical attention and special treatment needed

Remove patient from source of exposure and administer antidote immediately. Follow instructions as per antidote kit. Remove contaminated clothing from patient and wash exposed skin with soap and water if safe to do so, taking care to avoid skin contact. Seek immediate medical treatment.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media
Carbon dioxide extinguishers should not be used as contact with cyanides may result in the evolution of flammable hydrogen cyanide gas.

5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve flammable and toxic hydrogen cyanide gas in contact with water, moist air, acids, acid salts or carbon dioxide.

5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic and flammable 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.

5.4 Hazchem code
2X

2 Fine Water Spray.

X Wear liquid-tight chemical protective clothing and breathing apparatus. Contain spill and run-off.

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. 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
Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

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.

7.2 Conditions for safe storage, including any incompatibilities
Store (bulk) in a secured, windowless but well ventilated area with a minimum 2 metre fence with rain and fire proof cover, removed from direct sunlight, incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Containers should be stored off ground.

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
Cyanides (as CN)	SWA [AUS]	--	5	--	--
Cyanides and cyanide salts	SWA [Proposed]	--	1	--	--
Cyanides and cyanide salts (peak limitation)	SWA [Proposed]	--	5 (Peak)	--	--

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. Maintain dust levels below the recommended exposure standard.

PPE

Eye / Face	Wear dust-proof goggles.
Hands	Wear full-length butyl or full-length neoprene gloves.
Body	Wear coveralls and rubber or PVC boots. With prolonged use, wear impervious coveralls.
Respiratory	Wear a Full-face Type B2/3 (Acid gas and Hydrogen cyanide) respirator. With prolonged use, wear an Air-line respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	WHITE SOLID
Odour	BITTER ALMOND ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	1500°C
Melting point	560°C
Evaporation rate	NOT AVAILABLE
pH	11.0 to 12.0
Vapour density	NOT AVAILABLE
Relative density	1.6 to 1.62
Solubility (water)	MISCIBLE
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
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

Contact with acids releases hydrogen cyanide gas.

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 (e.g. hypochlorites), acids (e.g. nitric acid), reducing agents (e.g. sulphites), water (evolving toxic and flammable gases), nitrating agents, indium, dinitrogen tetraoxide, nitrogen-fluorine compound, heat and ignition sources. Will attack some forms of rubber and plastic.

10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity Fatal if swallowed, in contact with skin, and if inhaled.

Information available for the ingredients:

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
SODIUM CYANIDE	5.09 mg/kg (rat)	11.83 to 14.63 mg/kg (rabbit)	323 ppm/5 minutes (mouse - hydrogen cyanide)

Skin Contact may result in irritation, redness, pain, rash, dermatitis and possible burns.

Eye Contact may result in irritation, lacrimation, pain, redness and possible burns.

Sensitisation Not classified as causing skin or respiratory sensitisation.

Mutagenicity Insufficient data available to classify as a mutagen.

Carcinogenicity Insufficient data available to classify as a carcinogen.

Reproductive Insufficient data available to classify as a reproductive toxin.

STOT - single exposure Over exposure may result in weakness, headache, nausea, vomiting, confusion, nervousness, breathing difficulties, convulsions, and death from respiratory arrest.

STOT - repeated exposure Individuals with pre-existing kidney, respiratory, skin or thyroid diseases are at a greater risk of developing toxic cyanide effects. Cyanide is reported to cause damage to the central nervous system. Death usually occurs due to respiratory arrest.

Aspiration Not classified as causing aspiration.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Cyanides are acutely and chronically toxic to aquatic organisms and to mammals.

12.2 Persistence and degradability

Cyanides have been shown to be inherently biodegradable (99%) after adaptation of organisms to non-toxic concentrations (ECHA).

12.3 Bioaccumulative potential

Cyanides have a log Kow less than 1 and bioconcentration factor (BCF) of approximately 3; therefore, cyanides are not considered to be bioaccumulative (ECHA).

12.4 Mobility in soil

No information provided.

12.5 Other adverse effects

Avoid contamination of drains and waterways.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal For small quantities, wear protective equipment and collect (if solid) or absorb with vermiculite or similar (if liquid). Treat with strongly alkaline solution of calcium hypochlorite (CAUTION: Toxic gases may be generated), let stand for 24 hours, absorb with sand or similar and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	1689	1689	1689
14.2 Proper Shipping Name	SODIUM CYANIDE	SODIUM CYANIDE	SODIUM CYANIDE
14.3 Transport hazard class	6.1	6.1	6.1
14.4 Packing Group	I	I	I

14.5 Environmental hazards

Marine Pollutant.

14.6 Special precautions for user

Hazchem code	2X
Specific EPG	6.0.002
EmS	F-A, S-A

15. REGULATORY INFORMATION

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

Poison schedule Classified as a Schedule 7 (S7) 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.
EUROPE:EINECS (European Inventory of Existing Chemical Substances)
All components are listed on EINECS, 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.

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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