



SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name ASSAY TABS

Synonyms ASSAYTABS • LeachWELL ASSAY TABS • MPC ASSAYTABS • SODIUM CYANIDE (~75%) • SODIUM CYANIDE 75% • SODIUM CYANIDE SOLID (~75%)

1.2 Uses and uses advised against

Uses CYANIDE RECOVERABLE GOLD, COPPER AND SILVER ASSAYS • LABORATORY APPLICATIONS • LABORATORY REAGENT

1.3 Details of the supplier of the product

Supplier name MINERAL PROCESS CONTROL (MPC) PTY LTD

Address Unit 3, 30 Furniss Road, Landsdale, WA, 6065, AUSTRALIA

Telephone (08) 9303 2334

Email info@mpcwa.com

Website www.mpcwa.com

1.4 Emergency telephone numbers

Emergency (Australia) 13 11 26

Emergency (International) +61 2 9515 1267

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

GHS classifications Acute Toxicity: Oral: Category 2
Acute Toxicity: Skin: Category 1
Skin Corrosion/Irritation: Category 2
Skin Sensitisation: Category 1
Serious Eye Damage / Eye Irritation: Category 2A
Acute Toxicity: Inhalation: Category 2
Toxic to Reproduction: Category 1A
Specific Target Organ Systemic Toxicity (Repeated Exposure): Category 2
Aquatic Toxicity (Acute): Category 1

2.2 GHS Label elements

Signal word DANGER

Pictograms



PRODUCT NAME ASSAY TABS**Hazard statements**

H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H360	May damage fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
AUH032	Contact with acids liberates very toxic gas.

Prevention statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
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.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.

Response statements

P302 + P350	IF ON SKIN: Gently wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P310	Immediately call a POISON CENTER or doctor/physician.
P320	Specific treatment is urgent - see first aid instructions.
P330	Rinse mouth.
P362	Take off contaminated clothing and wash before re-use.
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	75%
M-NITROBENZENESULPHONIC ACID, SODIUM SALT	127-68-4	204-857-3	~ <25%
LEAD (II) NITRATE	10099-74-8	233-245-9	~ 0.5%

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. To protect rescuer, use a Full-face Type B2 (Acid gas and hydrogen cyanide) or an Air-line respirator (in poorly ventilated areas). Give oxygen and if necessary, artificial respiration. If giving mouth to mouth, wash out patients mouth and lips-do not inhale patients expired air. Remove contaminated clothing and wash before reuse.
Skin	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

PRODUCT NAME ASSAY TABS

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

Mild cyanide poisoning - This may manifest as anxiety, headache, nausea and vomiting, mucous membrane irritation, metallic taste, shortness of breath and dizziness.

Progression of poisoning - Signs of deterioration include increasing shortness of breath, falling blood pressure, cardiac arrhythmia, periods of cyanosis and a deteriorating level of consciousness.

Moderate and severe poisoning - Exposure to cyanide gas produces the most rapid onset of symptoms. High concentrations of inhaled cyanide result in rapid loss of consciousness with seizures, difficulty breathing and cardiac arrest, with death occurring within a few minutes. Survivors may suffer brain injury due to either a direct toxic effect or anoxia (lack of oxygen).

4.3 Immediate medical attention and special treatment needed

Oxygen (100%) is considered the most useful treatment for early cyanide poisoning and should be administered to anyone exposed to cyanide, whether conscious or unconscious, breathing or not breathing. If there is evidence of deterioration, despite 100% oxygen administration, and there is a convincing history of exposure, administration of an antidote may be indicated, particularly if there is loss of consciousness or cardiovascular instability. The preferred antidote is hydroxycobalamin administered intravenously. Oxygen should continue to be administered.

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. May evolve ammonia when heated to decomposition.

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.

PRODUCT NAME ASSAY TABS**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/m ³	ppm	mg/m ³
Cyanides (as CN)	SWA (AUS)	--	5	--	--
Lead, inorganic dusts & fumes (as Pb)	SWA (AUS)	--	0.15	--	--

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 (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	ROSE SPECKLED WHITE TABLETS
Odour	SLIGHT BITTER ALMONDS ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	NOT AVAILABLE
Melting point	560°C (Approximately)
Evaporation rate	NOT AVAILABLE
pH	11 to 12 (5 % to 25 % solution)
Vapour density	NOT AVAILABLE
Specific gravity	1.6
Solubility (water)	NOT AVAILABLE
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

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

10.6 Hazardous decomposition products

May evolve ammonia when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity Fatal if swallowed, in contact with skin, and if inhaled. Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain, convulsions and loss of consciousness. Collapse and possible death may occur.

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)
M-NITROBENZENESULPHONIC ACID, SODIUM SALT	11 g/kg (rat)	--	> 5100 mg/m ³ /4 hours (rat)

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 May cause an allergic skin reaction. This product is not classified as a respiratory sensitiser.

Mutagenicity The evidence for genotoxic effects of lead is contradictory, with numerous studies reporting both positive and negative effects. Responses appear to be induced by indirect mechanisms, mostly at very high concentrations that lack physiological relevance.

Carcinogenicity Not classified as a carcinogen. However, this product contains trace amounts of lead nitrate (below that to require classification). Lead compounds (inorganic) are classified as probably carcinogenic to humans (IARC Group 2A).

Reproductive There is sufficient data to indicate that lead compounds may damage fertility or the unborn child.

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. Lead is a cumulative poison, and symptoms are often delayed. Over exposure may result in lead poisoning. Repeated exposure may result in blood, kidney and central nervous system/brain damage.

Aspiration Not classified as causing aspiration.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Very toxic to aquatic life. Moisture will cause slow decomposition into poisonous HCN and ammonia gases.

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

No information provided.

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
GTEPG EPG
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 Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

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

16. OTHER INFORMATION

PRODUCT NAME ASSAY TABS

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/m ³	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.

Prepared by

Risk Management Technologies
5 Ventnor Ave, West Perth
Western Australia 6005
Phone: +61 8 9322 1711
Fax: +61 8 9322 1794
Email: info@rmt.com.au
Web: www.rmtglobal.com

[End of SDS]