

Product Name **BHPBILLITON KNR AMMONIUM SULPHATE**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier name **BHPBILLITON NICKEL WEST - KWINANA NICKEL REFINERY**
Address 270 Patterson Road, Kwinana, WA, 6167, AUSTRALIA
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Synonym(s) 24AU NIWKNR AMSUL • 24AU NIWKNR MAXAM • AMSUL • KNR AMSUL • MAXAM
Use(s) BY-PRODUCT • FERTILISER
SDS date 16 July 2013

2. HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

RISK PHRASES

None allocated

SAFETY PHRASES

None allocated

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN number	None Allocated	DG class	None Allocated
Packing group	None Allocated	Subsidiary risk(s)	None Allocated
Hazchem code	None Allocated		

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Identification	Classification	Content
CALCIUM	CAS: 7440-70-2 EC: 231-179-5	F+;R15	<0.1%
COBALT	CAS: 7440-48-4 EC: 231-158-0	Xn;R42/43 N;R53	<0.1%
NICKEL	CAS: 7440-02-0 EC: 231-111-4	Carc.;R40 Xn;R43 T;R48/23	<0.1%
SODIUM	CAS: 7440-23-5 EC: 231-132-9	F+;R14/15 C;R34	<0.1%
AMMONIUM SULPHATE	CAS: 7783-20-2 EC: 231-984-1	Not Available	>99.8%
CHLORIDE(S)	Not Available	Not Available	<0.1%

4. 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.

Skin If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running

PPE

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



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	WHITE CRYSTALLINE SOLID
Odour	ODOURLESS
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	NOT RELEVANT
Melting point	350°C
Evaporation rate	NEGLIGIBLE
pH	NOT AVAILABLE
Vapour density	NOT AVAILABLE
Specific gravity	NOT AVAILABLE
Solubility (water)	SOLUBLE
Vapour pressure	NOT RELEVANT
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
% Volatiles	NEGLIGIBLE

10. STABILITY AND REACTIVITY

Chemical stability	Stable under recommended conditions of storage.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources.
Material to avoid	Incompatible with oxidising agents (eg. hypochlorites).
Hazardous Decomposition Products	May evolve toxic gases (sulphur/ nitrogen oxides, ammonia) when heated to decomposition.
Hazardous Reactions	Polymerization is not expected to occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Low to moderate toxicity - irritant. This product may present a hazard with direct eye contact, prolonged skin contact or with dust inhalation at high levels. Chronic effects are not anticipated.
Eye	Low to moderate irritant. Contact may result in irritation, lacrimation, pain and redness.
Inhalation	Low irritant. Over exposure may result in irritation of the nose and throat, with coughing.
Skin	Low irritant. Prolonged or repeated contact may result in mild irritation, rash and dermatitis.
Ingestion	Low to moderate toxicity. Ingestion may result in gastrointestinal irritation, nausea, vomiting, abdominal pain and diarrhoea.
Toxicity data	COBALT (7440-48-4) LD50 (ingestion) 6170 mg/kg (rat) LD50 (intraperitoneal) 100 mg/kg (rat)

Product Name **BHPBILLITON KNR AMMONIUM SULPHATE**

COBALT (7440-48-4)	
LDLo (ingestion)	750 mg/kg (rabbit)
LDLo (intraperitoneal)	100 mg/kg (mouse)
LDLo (intravenous)	100 mg/kg (mouse)
NICKEL (7440-02-0)	
LD50 (intraperitoneal)	250 mg/kg (rat)
LDLo (ingestion)	5 mg/kg (guinea pig)
LDLo (subcutaneous)	7.5 mg/kg (rabbit)
TCLo (inhalation)	15 mg/m ³ /91W-I (guinea pig - tumors)
TDL0 (ingestion)	158 mg/kg (rat - foetotoxic)
SODIUM (7440-23-5)	
LD50 (intraperitoneal)	4 g/kg (mouse)
AMMONIUM SULPHATE (7783-20-2)	
LD50 (ingestion)	640 mg/kg (mouse)
LD50 (intraperitoneal)	610 mg/kg (mouse)
LDLo (ingestion)	3500 mg/kg (domestic animal)
TDL0 (ingestion)	1500 mg/kg (man - gastrointestinal effects)

12. ECOLOGICAL INFORMATION

Toxicity	No information provided.
Persistence and degradability	No information provided.
Bioaccumulative potential	No information provided.
Mobility in soil	No information provided.
Other adverse effects	No information provided.

13. DISPOSAL CONSIDERATIONS

Waste disposal	Reuse or recycle where possible. Alternatively, ensure product is covered with moist soil to prevent dust generation and dispose of to an approved landfill site. Contact the manufacturer for additional information.
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

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
UN number	None Allocated	None Allocated	None Allocated
Proper shipping name	None Allocated	None Allocated	None Allocated
DG class/ Division	None Allocated	None Allocated	None Allocated
Subsidiary risk(s)	None Allocated	None Allocated	None Allocated
Packing group	None Allocated	None Allocated	None Allocated
Hazchem code	None Allocated		

15. REGULATORY INFORMATION

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).
Inventory Listing(s)	AUSTRALIA: AICS (Australian Inventory of Chemical Substances) All components are listed on AICS, 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 AVERAGE (TWA) or WES (WORKPLACE EXPOSURE STANDARD) (NZ): 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 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.

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
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
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
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
TLV	Threshold Limit Value
TWA/OEL	Time Weighted Average or Occupational Exposure Limit

Revision history

Revision	Description
2.0	Standard SDS Review.
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