

PRODUCT NAME BHPBILLITON NICKEL BRIQUETTES**1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

Supplier Name BHPBILLITON NICKEL WEST - KWINANA NICKEL REFINERY
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Synonym(s) NICKEL BRIQUETTES
Use(s) FEEDSTOCK IN THE MANUFACTURE OF STEEL • STEEL MANUFACTURE
MSDS Date 15 August 2007

2. HAZARDS IDENTIFICATION

AUSTRALIAN CLASSIFICATION: CLASSIFIED AS HAZARDOUS ACCORDING TO ASCC CRITERIA
OSHA: HAZARDOUS BY DEFINITION OF HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200)
EEC CLASSIFICATION: DANGEROUS ACCORDING TO DIRECTIVE 67/548/EEC

HAZARD CLASSIFICATION

Carc. Cat. 3 Category 3 carcinogen.
Xn Harmful.



RISK PHRASES

R40 Limited evidence of a carcinogenic effect.
R43 May cause sensitisation by skin contact.

SAFETY PHRASES

S22 Do not breathe dust.
S36 Wear suitable protective clothing.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	EINECS	CAS No.	Content	Classification
NICKEL	231-111-4	7440-02-0	>99.5%	Carc. Cat. 3; R40 Xn; R43

4. FIRST AID MEASURES

Eye Exposure is considered unlikely. No eye irritation is anticipated.

Inhalation Exposure is considered unlikely. Due to product form, acute inhalation symptoms are not anticipated.

Skin Gently flush affected areas with water.

Ingestion For advice, contact a Poison Information Centre or a doctor/physician. Ingestion is considered unlikely due to product form.

Medical Advice Treat symptomatically.

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5. FIRE FIGHTING MEASURES

Flammability	Non flammable. May form nickel oxides when strongly heated.
Fire and Explosion	Non flammable. Treat as per requirements for Surrounding Fires: Evacuate area and contact emergency services. 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.
Extinguishing	Non flammable. Prevent contamination of drains or waterways, absorb runoff with sand or similar.
Hazchem Code	None allocated.

6. ACCIDENTAL RELEASE MEASURES

Spillage	If spilt (bulk), wear dust-proof goggles, PVC/rubber gloves, a Class P2 (Particulate) respirator and coveralls. Collect spill and place in sealable containers for disposal. Avoid generating dust. May be toxic to aquatic organisms in low concentrations. Prevent product from entering drains and waterways.
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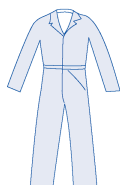
7. STORAGE AND HANDLING

Storage	Store in cool, dry, well ventilated area, removed from oxidising agents, acids and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.
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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Standards	Ingredient	Reference	TWA		STEL	
			ppm	mg/m3	ppm	mg/m3
	Nickel, metal	ASCC (AUS)	--	1	--	--
	Nickel, elemental	ACGIH (US)	--	1.5	--	--
	Nickel, insoluble compounds (NOS)	ACGIH (US)	--	0.2	--	--
	Nickel compounds (as Ni)	WEL (UK)	--	0.5	--	--
	Nickel compounds (as Ni)	OEL (Finland)	--	0.1	--	--
	Nickel compounds (as Ni)	OEL (France, Neth)	--	1	--	--
	Nickel compounds (as Ni)	OEL (Sweden, Switz)	--	0.5	--	--
	Nickel and nickel compounds	MAK (German)	--	1	--	--

Biological Limits	No biological limit allocated.
Engineering Controls	No special precautions are required unless dust is generated. Where dust generation occurs, mechanical extraction ventilation is recommended.
PPE	Wear dust-proof goggles, leather or rubber gloves and coveralls. Where a dust risk exists wear a Class P2 (Particulate) respirator.



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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	SMALL SILVER/GREY BRIQUETTES	Solubility (water)	INSOLUBLE
Odour	ODOURLESS	Specific Gravity	NOT AVAILABLE
pH	NOT RELEVANT	% Volatiles	NOT RELEVANT
Vapour Pressure	NOT RELEVANT	Flammability	NON FLAMMABLE
Vapour Density	NOT AVAILABLE	Flash Point	NOT RELEVANT
Boiling Point	2837°C (5139°F)	Upper Explosion Limit	NOT RELEVANT
Melting Point	1455°C (2651°F)	Lower Explosion Limit	NOT RELEVANT
Evaporation Rate	NOT RELEVANT	Autoignition Temperature	NOT AVAILABLE

10. STABILITY AND REACTIVITY

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. peroxides) and acids (eg. hydrochloric acid).
Decomposition	May evolve toxic nickel oxides when strongly heated.
Hazardous Reactions	Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Moderate toxicity. Use safe work practices to avoid skin contact and dust generation. Nickel is classified as a possibly carcinogenic to humans (IARC Group 2B). Skin and respiratory sensitiser. Those individuals with pre-existing lung or skin sensitivities - disease are advised to avoid exposure. Due to product form an inhalation hazard is not anticipated unless dust is produced. Category 3 carcinogen - a substance which causes concern for carcinogenicity in humans, but for which there is insufficient information to make a classification.
Eye	Exposure considered unlikely. Product may only present a hazard if dust is generated.
Inhalation	Exposure considered unlikely. Product may only present a hazard if dust is generated. Over exposure to dusts may result in mucous membrane irritation of the respiratory tract. Potential respiratory sensitiser.
Skin	Irritant. Prolonged contact may result in irritation, dermatitis with severe itching and possible sensitisation.
Ingestion	Exposure considered unlikely. Due to product form, ingestion is unlikely. Nickel is poorly absorbed through the stomach.
Toxicity Data	NICKEL (7440-02-0) LD50 (Intraperitoneal): 250 mg/kg (rat) {RTECS}

12. ECOLOGICAL INFORMATION

Ecotoxicity	May be harmful to the aquatic environment.
Persistence / Degradability	Nickel may persist in natural waters indefinitely, however no data was found to suggest that nickel is involved in any biological transformation in the aquatic environment. Nickel is not expected to accumulate in fish. Nickel does not appear to accumulate in plants or small animals.
Mobility	Nickel is adsorbed strongly by soil, but the extent of adsorption is site specific, as the retention of metals is dependent upon soil texture, bulk density, pH, and the presence of clay materials, organic matter, and hydroxides. The leachability of nickel is pH dependent, as low pH values lead to higher mobility.

13. DISPOSAL CONSIDERATIONS

Waste Disposal	Reuse where possible, or return to the manufacturer or supplier. Alternatively, dispose of at an approved landfill site. Contact the manufacturer for additional information.
Legislation	Dispose of in accordance with relevant local legislation.

PRODUCT NAME BHPBILLITON NICKEL BRIQUETTES

14. TRANSPORT INFORMATION

NOT REGULATED FOR TRANSPORT PURPOSES

ROAD AND RAIL (ADG / ADR / RID / US DOT)

Proper Shipping Name None Allocated

UN No. None Allocated DG Class None Allocated

Subsidiary Risk(s) None Allocated

Pkg Group None Allocated Hazchem Code None Allocated

SEA (IMDG/IMO)

Proper Shipping Name None Allocated

UN No. None Allocated DG Class None Allocated

Subsidiary Risk(s) None Allocated

Pkg Group None Allocated Hazchem Code None Allocated

AIR (IATA/ICAO)

Proper Shipping Name None Allocated

UN No. None Allocated DG Class None Allocated

Subsidiary Risk(s) None Allocated

Pkg Group None Allocated Hazchem Code None Allocated

15. REGULATORY INFORMATION

AUSTRALIA

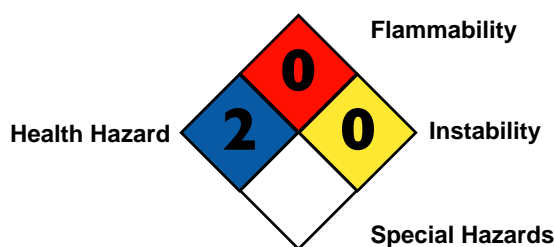
Poison Schedule A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

UNITED STATES

HMIS

Health	*	2
Flammability		0
Physical Hazard		0
Personal Protection		

NFPA



US EPCRA and CAA Regulatory Information

The following components are subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act (CAA):

Ingredient Name	CAS No	Sara 302 (TPQ)	Sara 304 (RQ)	CERCLA (RQ)	Sara 313	RCRA Code	CAA (TQ)
NICKEL	7440-02-0			100	313		

Refer to Section 16 - Summary of Codes

Carcinogenicity

The following components are reported to be carcinogenic:

Ingredient Name	CAS No	NTP	IARC	OSHA
NICKEL	7440-02-0	Anticipated	Group 2B	

CANADA (WHMIS)

D2A - Poisonous and infectious material - Other effects - Very toxic

PRODUCT NAME **BHPBILLITON NICKEL BRIQUETTES**

15. REGULATORY INFORMATION

INTERNATIONAL CHEMICAL INVENTORY LISTINGS

UNITED STATES: TSCA (US Toxic Substances Control Act)

All components are listed on the TSCA inventory.

CANADA: DSL (Canadian Domestic Substances List)

All components are listed on the DSL.

AUSTRALIA: AICS (Australian Inventory of Chemical Substances)

All components are listed on AICS.

EUROPE: EINECS (European Inventory of Existing Chemical Substances)

All components are listed on EINECS.

JAPAN: MITI (Japanese Handbook of Existing and New Chemical Substances)

All components are listed in the Handbook.

KOREA: ECL (Korean Toxic Substances Control Act)

All components are listed on the Korean inventory.

CHINA: IECSC (Inventory of Existing Substances in China)

All components are listed in the IECSC.

PHILIPPINES: PICCS (Philippine Inventory of Chemicals and Chemical Substances)

All components are listed in the PICCS.

16. OTHER INFORMATION

Additional Information

ABBREVIATIONS:

ADB - Air-Dry Basis.

CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.

CNS - Central Nervous System.

IARC - International Agency for Research on Cancer.

M - moles per litre, a unit of concentration.

mg/m³ - Milligrams per cubic metre.

NOS - Not Otherwise Specified.

pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).

ppm - Parts Per Million.

TWA/ES - Time Weighted Average or Exposure Standard.

RTECS - Registry of Toxic Effects of Chemical Substances.

EINECS - European Inventory of Existing Commercial chemical Substances Information System.

NTP - National Toxicology Program.

OSHA - Occupational Safety and Health Administration.

SUMMARY OF CODES:

RQ - Reportable Quantity measured in pounds (304, CERCLA)

TQ - Threshold Quantity measured in pounds (CAA)

TPQ - Threshold Planning Quantity measured in pounds (302)

^ - Reporting threshold has changed since November 1998.

+ - Member of PAC category.

- Member of diisocyanate category.

X - Indicates that this is a second name for a chemical already included on this consolidated list. May also indicate that the same chemical with the same CAS number appears on another list with a different chemical name.

* - RCRA carbamate waste: statutory one-pound RQ applies until RQs are adjusted.

** - This chemical was identified from a Premanufacture Review Notice (PMN) submitted to EPA. The submitter has claimed certain information on the submission to be confidential, including specific chemical identity.

*** - Indicates that no RQ is assigned to this generic or broad class, although the class is a CERCLA hazardous substance. See 50 Federal Register 13456 (April 4, 1985). Values in Section 313 column represent Category Codes for reporting under Section 313.

c - Although not listed by name and CAS number, this chemical is reportable under one or more of the EPCRA section 313 chemical categories.

s - Indicates that this chemical is currently under a administrative stay of the EPCRA section 313 reporting requirements, therefore, no Toxics Release Inventory reports are required until the stay is removed.

! - Member of the dioxin and dioxin-like compounds category.

16. OTHER INFORMATION

Report Status This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Material Safety Data Sheet ('MSDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer 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.

While RMT has taken all due care to include accurate and up-to-date information in this MSDS, 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 MSDS.

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End of Report