



MATERIAL SAFETY DATA SHEET

Q-CELL INORGANIC MICROSPHERES

Effective Date : June 2012

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I. Identification

SUPPLIER: Norski Holdings Ltd, 10 Northpoint Street, Plimmerton, 5024 New Zealand

PRODUCT NAME: Q-Cell Inorganic Microspheres

OTHER NAMES: Norski Q-Cells, Hollow Microspheres

USE: Speciality engineering additive in plastics eg it is added to modify the density; impact resistance; wear resistance; provide thermal or acoustic insulation.

II. Hazards Identification

EMERGENCY OVERVIEW: Fine, white powder with no odour. Not combustible. Dusts can cause physical irritation to eyes and respiratory system. May cause dry skin and mild irritation.

DANGEROUS GOODS INFORMATION: Not a Dangerous Good according to the ADG Code.

HAZARDOUS SUBSTANCES INFORMATION: Not a Hazardous Substance according to the criteria of the Australian NOHSC.

POISON SCHEDULE: Not a Scheduled Poison.

ACUTE HEALTH EFFECTS

SWALLOWED: May cause slight irritation to mouth, throat and stomach.

EYE: Dusts can cause physical irritation to eyes. May cause redness and tearing.

SKIN: May cause dry skin and mild skin irritation.

INHALED: Dusts may cause respiratory irritation. May cause sneezing. May cause dryness of the mucous membranes.

CHRONIC HEALTH EFFECTS

ALL ROUTES: Prolonged or repeated skin contact may cause dry skin. Defatting of the skin can result in irritation and dermatitis (inflammation of the skin).

III. Composition/Information on Ingredients

CHEMICAL IDENTITY OF INGREDIENTS	CAS NO.	PROPORTION	RISK PHRASES AS 100%
Sodium Borosilicate Powder	50815-87-7 or 1344-09-8 and 7775-19-1	>99.5%	
Moisture (loss on drying at 105°C)	7732-18-5	<0.5%	
Loss on Ignition		3-7%	

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IV. First Aid Measures

SWALLOWED: Immediate rinse mouth with water. Repeat until product is thoroughly removed. Give water to drink. Get medical attention if effects develop or persist.

EYE: Immediately rinse with plenty of water for at least 15 minutes. Eyelids to be held open. Obtain medical attention if physical irritation persists.

SKIN: Wash contaminated skin with plenty of water. Get medical attention if irritation effects develop or persist.

INHALED: Remove victim to fresh air. Get medical attention if health effects develop or persist.

FIRST FACILITIES: Safety shower and eye wash facilities nearby.

NOTES TO PHYSICIAN: Treat symptomatically.

EMERGENCY: 0800 POISON (764 766)

V. Fire Fighting Measures

FIRE OR EXPLOSION HAZARD: Solid, non-combustible powder. Electrostatic discharges may occur when pumping/transferring/pouring the dry powder.

EXTINGUISHING MEDIA: Any extinguishing media suitable for the surrounding area.

COMBUSTION PRODUCT HAZARDS: No significant hazardous combustion products.

SPECIAL PROTECTIVE PRECAUTIONS AND EQUIPMENT: Eye and respiratory protection where dust clouds are formed. No other special precautions required.

VI. Accidental Release Measures

EMERGENCY PROCEDURES: Do not breathe dust. Avoid contact with skin and eyes. **Small spill cleanup:** Vacuum, shovel, sweep or mop up. Avoid raising dust clouds. **Large spill cleanup:** Keep unnecessary people away. Avoid walking through the spilled material. Vacuum, scoop or shovel up. Avoid raising dust clouds. Place spillages in clean labelled containers for reuse, recycling or disposal. See Section 13 for Disposal Considerations.

SPECIAL ISSUES: Spilled material may be a slipping hazard.

VII. Handling and Storage

SAFE HANDLING: Avoid contact with eyes, skin and clothing. Avoid breathing dusts. Keep container closed. Use only in well ventilated areas. Promptly clean up any spills or residues.

SAFE STORAGE: Keep containers closed at all times. Store in original containers or in clean metal or plastic containers and keep dry.

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VIII. Exposure Controls/Personal Protection

EXPOSURE CONTROLS: No exposure standards have been established for the borosilicate glass or surface coating ingredients in this product by NOHSC (Worksafe Australia).

Substance	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³
Nuisance Dust, Inspirable	-	10	-	-

This standard is the manufacturer's recommendation for good practice. All atmospheric contamination should be minimised.

DESIGN AND ENGINEERING CONTROL MEASURES: Use in well ventilated area. Avoid generating and inhaling dusts. When transferring the product consider the potential for electrostatic charge build up and the need to dissipate.

PERSONAL PROTECTIVE EQUIPMENT: Avoid skin and eye contact. Avoid inhaling the dust. Follow normal industrial safety practices. The use of protective clothing and equipment depends on the degree and nature of exposure. The following personal protective equipment should be used:

1. Safety glasses, goggles or faceshield as appropriate.
2. Plastic, rubber, leather or cotton gloves as appropriate.
3. Safety boots.
4. Overalls, splash apron or similar protective apparel.
5. Respiratory protection to AS1715/1716 when dust levels are present.

Wash contaminated clothing and protective equipment before storing and reusing. The use of barrier cream is recommended to minimise the skin drying effects of this material.

Where applicable, refer to the following Standards:

- AS/NZS1337 Eye protectors for industrial applications
- AS1715 Selection, use and maintenance of respiratory protective devices
- AS1716 Respiratory protective devices
- AS2161 Industrial safety gloves and mittens
- AS2210 Safety footwear
- AS3765 Clothing for protection against hazardous chemicals

IX. Physical and Chemical Properties

APPEARANCE: Fine, white powder with no odour.

CHEMICAL FORMULA: Na₂SiO₃ / NaBO₂ (fused ingredients general formulate)

MELTING POINT/BOILING POINT: MP: >350°C BP: Not determined

DECOMPOSITION TEMPERATURE:

VAPOUR PRESSURE: Not determined.

RELATIVE VAPOUR DENSITY: Not applicable

SPECIFIC GRAVITY OR DENSITY: Not applicable (as the microsphere is hollow)

BULK DENSITY: 150-500 kg/m³ (with narrow ranges for each grade).

SOLUBILITY: Insoluble in water.

pH: 7 to 9 (of a 5% slurry when left for several hours – estimated).

PERCENT VOLATILE: <0.5%

OCTANOL/WATER PARTITION: Not applicable (not soluble in either fraction).

CO-EFFICIENT CORROSIVENESS: No corrosive effects known.

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FLAMMABLE PROPERTIES

FLASHPOINT: Not applicable.

FLAMMABILITY LIMITS (FL) (%): Not applicable.

AUTOIGNITION TEMP: Not applicable.

PARTICLE SIZE: Mean: 30-125 micrometres (with a narrower range for each grade). Inspirable/Respirable Particles <7 micrometres: <2% (estimated).

X. Stability and Reactivity

CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: Dust cloud formation.

INCOMPATIBLE MATERIALS: None in particular. Strong bases may eventually dissolve the microspheres. Hydrofluoric Acid solutions will dissolve these microspheres.

UNSUITABLE CONTAINER MATERIALS: None in particular. Containers should allow any electrostatic charges built up to dissipate.

HAZARDOUS DECOMPOSITION PRODUCTS:

HAZARDOUS REACTIONS: None known.

XI. Toxicological Information

TOXICITY DATA

ACUTE ORAL TOXICITY: LD50 (rat): >5000 mg/kg (estimated).

EYE IRRITATION: May cause physical eye irritation.

SKIN IRRITATION: May cause physical skin irritation.

ORAL TOXICITY: When a similar product was tested for acute oral toxicity to rats at a dosage level of 500 mg/kg body weight, all animals survived and gained weight.

RESPIRATORY TOXICITY: When a similar product was tested for respiratory toxicity in a six month intratracheal study in rats, no mortality, untoward reactions, or observations correlated with exposure to the product. Minimal multifocal inflammation of the lung occurred in 90% of males and 80% of females. No appreciable increase in fibrous tissue was present in these lesions.

EYE IRRITATION: Not an eye irritant requiring labelling with R36. When similar materials were tested for acute eye irritation in rabbits, they causes iritis grade 1, redness was observed grade 1-2, chemosis grade 2 was observed as well as fluorescein stain retention. *Two Q-Cell Microsphere products were tested for Eye Irritation in the USA in 2000: Test 1/ 5mg placed into the conjunctival sac: No corneal opacity was noted in any observation period. Iritis of 1 noted in 1 of 3 years at 1hr, cleared by 24hrs. Conjunctival irritation scores of 2 (redness), 2 (chemosis), 2 (discharge) at 1hr noted in 3 eyes that had cleared by 24hrs. Test 2/ 5mg placed into the conjunctival sac: No corneal opacity or iritis was noted in any observation period. Conjunctival irritation scores of 1-2 (redness), 0-2 (chemosis), 0-2 (discharge) at 1hr noted in 3 eyes that had cleared by 24hrs.*

HUMAN EXPERIENCE: 20 years experience handling the product in a manufacturing facility have not lead to any reported skin, eye or respiratory irritation effects.

SKIN IRRITATION: When a similar product was tested for skin irritation potential, it caused very slight erythema to abraded skin. Its primary skin irritation index was 0.04, and so was no considered to be a primary skin irritant.

CARCINOGENIC EFFECTS: Not listed as a Carcinogen by the WHO IARC, USA NTP or USA OSHA.

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XII. Ecological Information

GENERAL: Avoid contaminating waterways. Insoluble in water. Will float on water due to its hollow nature. Not expected to be an environmental hazard, but may physically block systems.

ECOTOXICITY DATA: The Boron content in this borosilicate matrix, is not able to be released into the environment in quantities that cause harm. Note: Boron is an essential element for growth of plants, but at higher levels, greater than 0.75 mg/l, boron is toxic to some plants, particularly citrus crops.

PERSISTENCE AND DEGRADABILITY: This material is stable and does not readily degrade (dissolve). It is not expected to bioaccumulate.

MOBILITY: Will float on water. Expected to be immobile in soil.

XIII. Disposal Considerations

DISPOSAL METHODS AND CONTAINERS: Disposal to be in accordance with Local, State and Federal EPA waste regulations. Normally suitable for disposal at approved land waste.

LANDFILL, INCINERATION: May be landfilled. Not suitable for incineration.

XIV. Transport Information

ROAD & RAIL: Not defined as a Dangerous Good: by the Australia Code for the Transport of Dangerous Goods by Road & Rail.

SEA: Not a Dangerous Good according to the International maritime Dangerous Goods Code (IMDG Code).

AIR: Not a Dangerous Good according to the International Air Transport Association (IATA) Dangerous Goods Regulations.

XV. Regulatory Information

LABELLING: Not a Workplace Hazardous. Not a Scheduled Poison. Not a Dangerous Good.

PACKAGING: Any type. However, consider the potential for electrostatic charge dissipation.

AUSTRALIAN CHEMICAL CONTROL SCHEMES:

NICNAS – AICS All ingredients are on the Australian Inventory of Chemical Substances.

Aust. Pesticides & Veterinary Medicine Authority - Therapeutic Goods Administration	Ag & Vet Chemicals	Not applicable
Food Standards Australian and New Zealand Chemicals	Medicines	Not applicable
Weapons Act	Food	Not applicable
	Ozone Depleting Substance Act	Not applicable

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XVI. Other Information

MSDS DATES AND REVISIONS:

MSDS Original Preparation Date: 10th November 2004 (Draft 3)

MSDS Latest Revision Date: 6th September 2011

Sections Changed in Latest Revision: Contact details

TECHNICAL MANAGER: Adrian Hill

Phone (03) 9708 9205 Fax (03) 9708 9255 Email: Adrian.Hill@potters.net.au

MSDS Approved: 6th September 2011

ACRONYMS USED:

ADG Code: Australian Dangerous Goods Code for the Transport of Dangerous Goods by Road & Rail

NOHSC: Australian National Occupational Health and Safety Commission

WHS: Workplace Hazardous Substance

CAS No: Chemical Abstracts Service Registry Number

UN No: United Nations Dangerous Goods Number

MSDS CODE USED: This MSDS has been prepared according to the National Code of Practice for the Preparation of Material Safety Data Sheets [NOHSC:2011(2003)]

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