

MATERIAL SAFETY DATA SHEET

LIGNITE (BROWN COAL) BRIQUETTES

COMPANY DETAILS:

Company: TSM Pacific Int Pty Ltd

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AUSTRALIA

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IDENTIFICATION:

Product Name: Lignite Coal Briquettes

Other Name: Brown Coal Briquettes

Statement of Hazardous Nature

Briquettes are not classified as hazardous according to the hazardous substances classification criteria of Worksafe Australia.

Briquettes have been exempted from the Hazardous Goods regulations for road and rail transport and storage within Australia. For bulk shipments by sea, briquettes are classified by the Australian Maritime Safety Authority as self heating coal (liable to spontaneous heating but not emitting methane) under the International Maritime Organisation Goods Code Supplement Section "Code of Safe Practice for Solid Fuel Cargoes." For bulk shipments by sea UN Classification Number 3088 applies. For all other purposes, particularly when packed in drums, bags and containers, the following applies:

UN Number: 1325

Hazchem Code: Not applicable

Dangerous Goods Class: 4.1, (self heating substance)

Packaging Group: III

Manufacturer's Product Code: Briquettes

Use: Industrial (Type I Industrial) and Household (Type II)



Household) fuel, carbon source

PHYSICAL DESCRIPTION/PROPERTIES:

Appearance: Dark Brown Cylindrical Lumps (approx 58 x 43 x 40mm for Type I industrial briquettes. Approx 86 x 62 x 40mm for household briquettes)

Specific Gravity: 1.16 - 1.24 g/cm³ (dependent on particle size)

Flammability Limits: Dust Concentration 0.09 - 7.0 kg/m³
Oxygen Concentration 13%

Solubility in Water (g/L): Non-Soluble

Other Properties:

May spontaneously self heat in air over a period of hours or days. If not controlled, this can lead to spontaneous combustion. Dust explosion hazard if air borne dust concentration 0.09 to 7.0 kg/m³ and oxygen concentration < 13%. No dust explosion possible if dust concentration > 7 kg/m³ or oxygen concentration < 13%. Briquette dust is moderately corrosive. 51% volatile matter (dry basis).

Typical Ingredients: Dried Brown Coal consisting of:

Moisture	10 - 13 (%)	
Carbon	67 to 70	(%dry basis)
Hydrogen	4.7 to 5.1	(%dry basis)
Nitrogen	0.53 to 0.66	(%dry basis)
Sulphur (total)	0.29 to 0.42	(%dry basis)
Ash Yield	0.9 to 1.7	(%dry basis)
Oxygen	22.8 to 27.0	(%dry basis)

CAS Number: RN 129 521-66-0 (coal)

Proportion: 100%

HEALTH HAZARD INFORMATION:

Health Effects:

<u>Acute</u>	<i>Swallowed:</i>	Briquette lump size too large.
	<i>Eye:</i>	Nuisance only. Briquette dust causes mild eye irritation.
	<i>Skin:</i>	Nuisance only. Briquette dust is not absorbed through skin.
	<i>Inhaled:</i>	Not a serious respiratory hazard, although heavy exposure to briquette dust causes symptoms of low grade breathlessness, wheeze and phlegm. Smoking appears to aggravate symptoms. No evidence of statistical or clinical difference in lung function parameters.
<u>Chronic:</u>		There have been no reports in the literature of health effects in workers arising from long term exposure to this substance. No animal tests have been conducted for long term effects. Monitoring conducted by the former State Electricity Commission of Victoria (SECV) over many years has found no chronic effects.
First Aid:	<i>Eye:</i>	Irrigate with water or neutral saline solution. Seek medical attention for embedded foreign bodies.
	<i>Skin:</i>	Wash off after dust contact.
	<i>Inhaled:</i>	If briquette dust inhaled, remove from area. Do not smoke as smoking aggravates symptoms.
First Aid Facilities:		Water or neutral saline solution for eye wash.
Advice to Doctor:		It is exceedingly unlikely that acute poisoning would develop from briquette particles or dust. Treatment would be supportive, as there is no specific antidote.

PRECAUTIONS FOR USE:

Exposure Standards:	10 mg/m ³ for briquette dust (8 hour TWA)
Engineering Controls:	Reduce drop heights and impacts during handling to reduce dust levels. Ensure ventilation is adequate to maintain concentrations of briquette dust in air below exposure standards.
Personal Protection:	Goggles and dust mask recommended during handling of bulk product when dust is generated.
Flammability:	Use flameproof fittings, earth all containers to remove the possibility of sparks from static electricity and avoid ignition sources.

SAFE HANDLING INFORMATION:

- Storage and Transport:** Store bulk quantities of briquettes in stockpile heights no more than 6 metres. Do not allow briquette fines to accumulate in stockpiles - screening to remove particles <15mm is recommended immediately prior to stacking. Rescreening after each handling step is recommended. Transport over three days duration should use aged briquettes (> 7 days old) to minimise spontaneous heating problems.
- Spills and Disposal:** No smoking within 50 metres. Shovel up spillage. Build up of briquette dust should be avoided as this is prone to spontaneous heating and may cause spontaneous ignition.
- Fire Explosion/Hazard:** Good housekeeping in storage areas is important to minimise fire and explosion risk. Minimise build up of dust areas. Fire brigade authorities should be consulted. Fog nozzles should be used for outdoor and confined space fires.
- “Hot Spot” regions should be dug out and spread to allow cooling/extinguishing. Always wear full protective clothing.
- Asphyxiation Hazard:** In enclosed storage containers and hoppers, the oxygen level should be measured before entry due to the possible depletion of oxygen levels. Alternatively, use self contained breathing apparatus.
- Other Information:** Briquettes and briquette dust are not biodegradable. Briquette dust is very slowly wetted by water and tends to float on the water surface.
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