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**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**



COMPANY NAME: National Ceramic Industries Australia  
 COMPANY ADDRESS: 175 Racecourse Rd, Rutherford NSW 2320, Australia  
 EMERGENCY TELEPHONE NUMBER: (02) 4931 8400

PRODUCT NAME: NCIA Tiles  
 OTHER NAME: Ceramic Tiles  
 PRODUCT USE: Building Materials –used as floor covering and decoration

**2. HAZARDS IDENTIFICATION SUMMARY**

The manufacturing process of NCIA tiles involves mixing raw materials predominantly clays and other natural occurring minerals with water and the trace amount of inorganics, pressing into desired shapes, and then drying prior to glazing and decorating. After that the tiles are fired in a high temperature kiln. The inorganics are burning out during firing. All NCIA tiles are made in accordance with International and Australian Standards. The finished, fired tiles are odourless, stable, non-flammable, and pose no immediate hazard to health.

The fired tiles do not contain asbestos. They do not release hazardous materials after installation and are not considered hazardous waste should disposal be necessary under normal conditions. Respiratory, hand and eye protection may be needed to prevent excess exposure to airborne particulates if dust is produced by cutting the tiles during installation or if dust is produced by any other operations, including demolition/removal projects.

GHS Classification	Hazard Statements	Pictogram
Crystalline Silica: Category 3 (Respiratory tract irritation) (H335)	May cause respiratory irritation.	
Categories 1A(Carcinogenicity)(H372)	Causes damage to organs (lung/respiratory) through prolonged or repeated exposure (inhalation).	
Carcinogenicity Category 1A (H350)	May cause CANCER (inhalation).	No

**2.1. Definition**

Term	Definition
NCIA	National Ceramic Industries Australia Pty Ltd
GHS	Global Harmonized Standard
OSHA	Occupational Safety and Health Administration
PEL	Permissible exposure limits. They limits are established by OSHA
IDLH	Immediately dangerous to life or health. It is defined by NIOSH as exposure to airborne contaminants that is "likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from such an environment."
NIOSH	US National Institute for Occupational Safety and Health

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TLV	Threshold limit value
ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service
LFL	Lower Flammable Limits
TB	Tuberculosis
IRAC	International Agency for Research on Cancer

### 3. COMPOSITION, INFORMATION OF INGREDIEN

Ingredient	CAS Registry Number
$\alpha$ -quartz as a major crystalline	14808-60-7
Mullite as a trace crystalline	1302-93-8
Glass (amorphous)	60676-86-0

The tile contains the following major elements:

wt%	Na <sub>2</sub> O	MgO	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	P <sub>2</sub> O <sub>5</sub>	SO <sub>3</sub>	K <sub>2</sub> O	CaO	TiO <sub>2</sub>	Fe <sub>2</sub> O <sub>3</sub>	L.O.I	Sum
Tile	2.46	0.43	18.51	70.44	0.07	<0.01	4.05	0.19	0.65	1.51	0.31	98.62

The tile contains the following trace elements:

Element	ppm	Element	ppm
V	50	Zr	416
Cr	59	Nb	22
Mn	492	Ba	808
Co	68	La	55
Ni	13	Ce	68
Zn	183	Nd	37
Ga	25	W	732
As	44	Tl	15
Rb	214	Pb	30
Sr	106	Th	22
Y	40	U	12

### 4. FIRST AID MEASURES

**IF ON SKIN OR CLOTHING:** Wash thoroughly after working with tiles.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a doctor for treatment advice.

**IF INHALED:** Remove to fresh air if exposed to large amounts of tile dust. Administer artificial respiration if breathing has stopped. Keep victim at rest. Call a doctor for treatment advice.

**IF SWALLOWED:** .Not applicable for intact tiles.

Have emergency eyewash station available in area where tiles are cut.

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## 5. FIRE FIGHTING MEASURES

Flash Point (Method Used)	Not applicable
Autoignition Temperature	Not applicable
Flammable Limits (% by Volume in Air)	LFL - not applicable
Fire Extinguishing Media	None required Non-flammable
Special Fire Fighting Procedures	None required
Fire and Explosion Hazards	None

## 6. ACCIDENTAL RELEASE MEASURES

Avoid creating excessive dust during cutting tiles. Clean up dust with a vacuum system with a High-efficiency particulate air filter vacuum or damp sweeping. See Section 8 concerning personal protection information for clean-up.

## 7. HANDLING AND STORAGE

**HANDLING:** When cutting, grinding, use only in a well-ventilated area. Minimize dust generation and accumulation. Use wet cutting methods to reduce generation of dust. Use respiratory protection in the absence of effective engineering controls.

**STORAGE:** Do not store near acids. If tiles contact some acids, damage/discoloration to the surface may occur. Shelf life is unlimited.

## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Major Ingredient	OSHA PEL	NIOSH IDLH	ACGIH TLV*	Units
Crystalline silica as quartz -respirable fraction	$\frac{10}{\%SiO_2 + 2}$	0.05	0.025	mg/m <sup>3</sup>
Total dust	$\frac{30}{\%SiO_2 + 2}$	No	No	mg/m <sup>3</sup>

\* 2006 Edition, respirable fraction to be determined as per Appendix D of ACGIH TLV.

### ENGINEERING CONTROLS/PERSONAL PROTECTION

**VENTILATION:** Use adequate ventilation to keep exposure to dust below recommended exposure levels. Avoid inhalation of dust. The highest probability of silica exposure occurs during installation using dry cutting methods or during removal of installed tile. Wet cutting methods are recommended.

**EYE PROTECTION** - Safety goggles or glasses with side shields.

**CLOTHING** - Long-sleeved shirt and long pants, Chemical-resistant footwear plus socks

**GLOVES** - Cotton or leather gloves,

**RESPIRATOR** – Not required when handled under normal conditions. When handling in enclosed areas with inadequate ventilation, use a dust/mist filtering respirator.

**NOTE:** Personal protection information in Section 8 is based on general information for normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the assistance of an industrial hygienist or other qualified professional be obtained.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Brittle solid; colour may vary
Odour	Odourless
Melting Point	Not Available
Boiling Point	Not applicable
Vapour Pressure	Not applicable
Vapour Density (Air = 1)	Not applicable
Solubility in Water	Insoluble
Percent Volatile by Volume	Not applicable

## 10. STABILITY AND REACTIVITY

Stability	Stable in current form.
Conditions to Avoid	Avoid contact with acids (e.g., acetic, hydrofluoric, etc.)
Incompatibility (Materials to Avoid)	Avoid contact with acids (e.g., acetic, hydrofluoric, etc.)
Hazardous Polymerization	Will not occur.
Hazardous Decomposition Products	None

## 11. TOXICOLOGICAL INFORMATION

Primary Routes of Exposure	None for intact tile. Inhalation and potential exposure to eyes, hands, or other body parts if contact is made with broken tile, and/or during procedures involving the cutting of tiles, and/or for operations involving the removal of installed tiles.
Acute Effects	No acute effects from exposure to intact tile are known.
Chronic Effects	No chronic effects are known for exposure to intact tile
Potential Adverse Interactions	Silicosis may be complicated by severe mycobacterial or fungal infections and result in tuberculosis (TB). Epidemiologic studies have established that silicosis is a risk factor for developing TB. Any existing respiratory or pulmonary diseases may be complicated by exposure to respirable crystalline silica. Smoking may increase the risk of adverse effects if done in conjunction with occupational exposure to silica dust at or above permissible exposure limits.
Carcinogen Status	Respirable crystalline silica is classified by the International Agency for Research on Cancer as a Group I Carcinogen (carcinogenic to humans). The National Toxicology Program (9th Report) lists respirable crystalline silica as "Known to be a Human Carcinogen". NIOSH have recommended that crystalline silica be considered a potential occupational carcinogen.
Overview of Animal Testing	Short term experimental studies of rats have found that intratracheal instillation of quartz particles leads to the formation of discrete silicotic nodules in rats, mice and hamsters.

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**Oral (silica) Lethality**

LD50 Rat oral >22,500 mg/kg  
 LD50 Mouse oral >15,000 mg/kg  
 LC50 Carp >10,000 mg/l (per 72 hr.)

**12. ECOLOGICAL INFORMATION**

No information available at this time.

**13. DISPOSAL CONSIDERATIONS**

Waste should be disposed of in a landfill certified to accept such materials in accordance with federal, state, and local regulations.

**14. TRANSPORT INFORMATION**

D.O.T Shipping Name	Not applicable
Hazard Class	Non-regulated (for disposal purposes material is non-hazardous Class III regulated material)
ID Number	Not applicable
Marking	Not applicable
Label	None
Placard	None
Hazardous Substance/RQ	Not applicable
Shipping Description	Ceramic Tiles
Packaging References	None

**15. OTHER INFORMATION**

Global Harmonization Identification System  
 Health: 3 Fire: 4 Reactivity: 4  
 Hazardous Material Identification System  
 Health: 1 Fire: 0 Reactivity: 0  
 National Fire Protection Association  
 Health: 1 Fire: 0 Reactivity: 0

**16. REVISION HISTORY**

<b>Current Revision No.</b>	<b>Revision Details</b>	<b>Date</b>
1		28 November 2018