Safety data sheet

HardiePanel

According to Regulation (EC) No 1907/2006 Annex II

SECTION 1: Identification of the substance/ mixture and of the company/ undertaking

1.1 Product identifier
Trade Names:

HardiePanel

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses of the substance or mixture:
Fibre cement cladding for exterior and interior walls.
Uses advised against:
No information available at present.

1.3 Details of the supplier of the safety data sheet:
James Hardie Europe GmbH, Bennigsen-Platz 1, D- 40474 Düsseldorf,
Deutschland Telefon: 0800 - 5235665, Fax: 0800 - 5356578
sdb@jameshardie.com

Qualified person`s e-mail adress:
Product Development / Quality Assurance E-Mail: sdb@jameshardie.com

1.4 Emergency telephone number
Emergency information services/ official advisory body:
Giftinformationszentrum-Nord der Länder Bremen, Hamburg, Niedersachsen und Schleswig-Holstein (GIZ-Nord), Universitätsmedizin Göttingen - Georg-August-Universität, Robert-Koch-Str. 40, D-37075 Göttingen. Telefon: **+49 551 19240 (24/7)**

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008 (CLP)
The product is not classified as dangerous in the terms of Regulation (EC) No 1272/2008 (CLP).

2.2 Label elements
Labeling according to Regulation (EC) No 1272/2008 (CLP)
Not applicable.

2.3 Other hazards
The product does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/ 2006 (<0.1%)
The product does not contain any PBT substance (PBT= persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/ 2006 (<0.1%)

SECTION 3: Composition/ information on ingredients

3.2 Chemical characterisation: Mixture
Manufactured from Portland cement, sand and water, reinforced with natural fibres and fillers, semi-compressed and autoclaved. Coated products are coated with water-based acrylic paint or acrylic sealer.

Substance name	CAS Number	Notice	EINECS Number	Proportion (by weight)
Crystalline Silica (Quartz)	14808-60-7	Not a hazardous material for shipping purposes	238-874-4	35-45
Calcium Silicate (Hydrate)	65997-15-1	Not a hazardous material for shipping purposes	266-043-4	50-60
Cellulose	9004-34-6	Not a hazardous material for shipping purposes	232-674-9	<10

Calcium Aluminium Silicate hydrate	n.a.	Not a hazardous material for shipping purposes	n.a.	5-15

Additional information:
Due to the presence of crystalline silica in the raw material used in the manufacture of these products, machining may lead to the release of quartz dust.
Inhalation of quartz from occupational sources can cause silicosis and lung cancer.
International Agency for Research on Cancer (IARC) Monographs 1997. “Crystalline silica inhaled in the form of quartz and cristobalite from occupational sources is carcinogenic to humans” (Group 1).
Undisturbed, this product does not pose a health hazard with all the ingredients bonded in the cement matrix.

SECTION 4: First aid measures

4.1 Description of first aid measures
Inhalation:
Remove to fresh air. If shortness of breath or wheezing develops, seek medical attention.
Skin contact:
Wash with mild soap and water. Contact physician if irritation persists or later develops.
Eye contact:
Remove contact lens. Flush with running water or saline for at least 15 minutes. Seek medical attention if redness persists or if visual changes occur.
Ingestion:
If swallowed, dilute by drinking large amounts of water. Do not induce vomiting. Seek medical attention.
If unconscious, loosen tight clothing and lay the person on his/her left side. Give nothing by mouth to an individual who is not alert and conscious.

4.2 Most important symptoms and effects, both acute and delayed
No information available at present.

4.3 Indication of any immediate medical and special treatment needed
No information available at present. Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media:
James Hardie® Fibre-cement products are neither flammable nor explosive. Appropriate extinguishing media (carbon dioxide, foam, water, or dry chemical) for surrounding fire should be used.

Unsuitable extinguishing media:
None known.

5.2 Special hazards arising from the substance or mixture
None known.

5.3 Advice for firefighters
Special protective equipment:
Firefighting personnel should wear normal protective equipment and positive self-contained breathing apparatus.
Additional information
None known.

SECTION 6: Accidential release measures

6.1 Personal precautions, protective equipment and emergency procedures
No special precautions are necessary to pick up product that has been dropped. The following applies to releases of dust generated during cutting or sanding of the material.

Precautions: Take measures to either eliminate or minimize the creation of dust. Respirable dust and silica levels should be monitored regularly.
Wherever possible, practices likely to generate dust should be controlled with engineering controls such as local exhaust ventilation, dust suppression with water and containment, enclosure or covers.
Use respiratory protection as described in Section 8.

6.2 Environmental precautions:
Prevent entry into drains / surface waters / groundwater.

6.3 Methods and material for containment and cleaning up:
A fine water spray should be used to suppress dust when sweeping (dry sweeping should not be attempted). Vacuuming with an industrial vacuum cleaner fitted with a high-efficiency particulate (HEPA) filter is preferred to sweeping. Waste may be disposed of by landfill in compliance with federal, state and local requirements.
In the event of an accidental release, observe all protection measures set out in this safety data sheet. Avoid using materials and products that are incompatible with the product. (refer to Section 10)

6.4 Reference to other sections
For handling instructions see Section 7.
For personal protective equipment see Section 8.
For disposal instructions see Section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
7.1.1 General recommendations
The fibre cement boards in their intact state do not present a health hazard. The controls below apply to dust generated from the boards by cutting, drilling, routing, sawing, crushing, or otherwise abrading, and cleaning or moving sawdust.

James Hardie recommendation: Keep exposure to dust as low as reasonably possible. Respirable crystalline silica levels should not exceed exposure limits established by local jurisdictions, and identified in this safety data sheet. Exposure to respirable (fine) silica dust depends on a variety of factors, including activity rate (e.g. cutting rate), method of handling (e.g. electric shears), environmental conditions (e.g. weather conditions, workstation orientation) and control measures used.
Wherever possible, practices likely to generate dust should be carried out in well-ventilated areas (e.g. outside). The work practices and engineering controls set out in Section 8 should be followed to reduce silica exposures

7.1.2 Notes on general hygiene measures at the workplace
General hygiene measures for handling are applicable. Wash hands before breaks and at the end of work. Keep away from food, drink and animal feedingstuffs. Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities
Keep away from reactive products. Do not store near food, beverages or smoking materials. Avoid spilling and creating dust. Maintain appropriate dust controls during handling. Use appropriate respiratory protection during handling as described in Section 8
Storage instruction:
See Section 10.
Additional notes to storage conditions:
None.

7.3 Specific end use(s)
No information available at present.

SECTION 8: Exposure controls/ personal protection

8.1 Control parameters

Country	Quartz	Adopted by/Law denomination	OEL Name (if specific)
Belgium	0,1	Ministère de l'Emploi et du Travail	

Bulgaria	0,07	Ministry of Labour and Social Policy and Ministry of Health. Ordinance n°13 of 0/12/2003	Limit Values
Cyprus	10klQ (1)	Department of Labour Inspection. Control of factory atmosphere and dangerous substances in factories, Regulations of 1981	factory atmosphere and dangerous substances in factories, Regulations of 1981
Czech Republic	0,1	Governmental Directive n°441/2004	
Denmark	0,1	Direktoratet fot Arbeidstilsynet	Threshold Limit Value
Estonia	0,1		
Finland	0,2	National Board of Labour Protection	Occupational Exposure Standard
France	5 or 25k1Q, 0,1	Ministère de l'Industrie (RGIE) Ministère du Travail	Empoussiérage de référence Valeur limite de Moyenne d'Exposition
Greece	0,1	Legislation for mining activities	
Hungary	0,15		
Ireland	0,05	2002 Code of Practice for the Safety, Health & Welfare at Work (CoP)	
Italy	0,05	Associazone Italiana Degli Igienisti Industriali	Threshold Limit Values (based on ACGIH TLVs)
Lithuania	0,1	Dėl Lietuvos higienos normos HN 23:2001	Ilgalaikio poveikio ribinė vertė (IPRV)
Malta	/ (2)	OHSA – LN120 of 2003, www.ohsa.org.mt	OELVs
Netherlands	0,075	Ministerie van Sociale Zaken en Werkgelegenheid	Maximaal Aanvarde Concentratie (MAC)
Norway	0,1	Direktoratet for Arbeidstilsynet	Administrative Normer (8hTWA) (8hTWA) for Forurensing I ArbeidsmiljØet
Poland	0,3		
Romania	0,1	Government Decision n° 355/2007 regarding workers' health surveillance. Government Decision n° 1093/2006 regarding carcinogenic agents (in Annex 3: Quartz, Cristobalite, Tridymite).	
Slovakia	0,1		
Slovenia	0,15		
Spain	0,1	Instrucciones de Técnicas Complementarias (ITC) Orden ITC/2585/2007	
Sweden	0,1	National Board of Occupational Safety and Health	Yrkeshygieniska Gränsvärden
UK	0,1	Health & Safety Executive	Workplace Exposure Limits

(1) - Q: quartz percentage – K=1
(2) - When needed, Maltese authorities refer to values from the UK for OELVs which do not exist in the Maltese legislation.
Exposures Limits are based on an 8-hour time weighted average (TWA) unless otherwise stated.
Calcium Silicate (Hydrate), Cellulose and other non-hazardous ingredients have not been listed as Crystalline Silica (Quartz) (respirable) is the most hazardous substance and all control measures must comply with the most hazardous substance.

Other Limits Recommended:

Other Limits Recommended: Other countries may have exposure limits that vary from those published above. Respirable crystalline silica exposure limits most commonly range between 0.05 to 0.30 mg/ m^3 for an 8-hour TWA exposure. Please check with your local country to verify the most current applicable exposure limits.

Primary Routes of Entry and Potential Health Effects:

Inhalation:

Acute effects:

Dust may cause irritation of the nose, throat, and airways, resulting in coughing and sneezing. Certain susceptible individuals may experience wheezing (spasms of the bronchial airways) on inhaling dust during sanding or sawing operations.

Chronic Effects:

Repeated and prolonged overexposures to dust containing crystalline silica can cause silicosis (scarring of the lung) and increases the risk of bronchitis, tuberculosis, lung cancer, renal disease, and scleroderma (a disease affecting the connective tissue of the skin, joints, blood vessels, and internal organs). Some studies suggest that cigarette smoking increases the risk of silicosis, bronchitis and lung cancer in persons also exposed to crystalline silica.

Acute silicosis:
A sub-chronic disease associated with acute, massive silica exposure, is a rapidly progressive, incurable lung disease that is typically fatal. Symptoms include, but are not limited to, shortness of breath, cough, fever, weightloss and chest pain. Such exposure may cause pneumoconiosis and pulmonary fibrosis.

Ingestion:
Unlikely under normal conditions of use, but swallowing the dust from this product may result in -irritation or damage to the mouth and gastrointestinal tract due to alkalinity of dust.

Eye:
Dust may irritate the eyes from mechanical abrasion causing watering and redness.

Skin:
Dust may cause irritation of the skin from friction but cannot be absorbed through intact skin.

Medical conditions generally aggravated by exposure:
Pulmonary function may be reduced by inhalation of respirable crystalline silica and/or cellulose. If lung scarring occurs, such scarring could aggravate other lung conditions such as asthma, emphysema, pneumonia or restrictive lung diseases. Lung scarring from crystalline silica may also increase risks to pulmonary tuberculosis.

Smoking:
Some studies suggest that cigarette smoking increases the risk of occupational respiratory diseases, including silica-related respiratory diseases.

Carcinogenicity:
International Agency for the Research on Cancer (IARC): Crystalline silica inhaled in the forms of quartz or cristobalite from occupational sources is carcinogenic to humans.

8.2 Exposure Controls

8.2.1 Appropriate engineering controls
When handling products that may generate silica dust:
(1) follow our recommended cutting practices to limit the release of dust,
(2) work only in outdoor areas with ample ventilation, whenever possible,
(3) use a fiber cement shear for cutting or, where not feasible, use a HardieBlade® and dust-reducing circular saw attached to a HEPA vacuum,
(4) warn others in the immediate area,
(5) wear a properly-fitted, dust mask or respirator (e.g. FFP2/3) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures.

8.2.2 Individual protection measure, such as personal protective equipment
General hygiene measures for handling are applicable. Wash hands before breaks and at the end of work. Keep away from food, drink and animal feedingstuffs. Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/ face protection:
When cutting material, dust resistant safety goggles/glasses should be worn and used in compliance with local requirements, e.g. acc. EN 166.

Hand protection:
Protective gloves, e.g. acc. EN 374
Additional information on hand protection
In the case of mixtures, the selection has been made according to the knowledge available and the information about contens. Selection of materials derived from glove manufacturer`s indications.
Final selection of glove material must be made taking the breakthrough times, permeation rates and degration int account. Selection of suitable gloves depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer. In the Case of mixtures, the restince of glove materials cannot be predicted and must be tested before use. The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

Skin protection:
Loose comfortable clothing should be worn. Direct skin contact with dust and debris should be avoided by wearing long sleeved shirts and long trousers, a cap or hat, and gloves. Work clothes should be washed regularly.

Respiratory protection:
If respirators are selected, use and maintain in accordance with local requirements (e.g., EN

149) for particulate respirators. Select respirators based on the level of exposure to crystalline silica as measured by dust sampling. Use respirators that offer protection to the highest concentrations of crystalline silica if the actual concentrations are unknown. Comply with all other applicable national laws.

8.2.3 Environmental controls

Cutting Outdoors

1. Position cutting station so that wind will blow dust away from user or others in working area.
2. Use one of the following methods based on the required cutting rate:

Best

• Score and snap using carbide-tipped scoring knife or utility knife
• Shears (Pneumatic or Handheld)

Good

• Dust reducing circular saw equipped with HardieBlade® saw blade and HEPA vacuum extraction

Minimum (for low to moderate cutting only)

• Dust reducing circular saw with HardieBlade® saw blade
• Hand saw with hardened teeth

Cutting Indoors

• Cut only using score and snap or shears (manual, electric or pneumatic)
• Position cutting station in well-ventilated area

Sanding/Rebating/Drilling/Other Machining

If sanding, rebating, drilling, or other machining is necessary, you should always wear a dust respirator in compliance with local requirements (e.g., EN 149, FFP2/3) and warn others in the immediate area.

Clean-up

During clean up, dust and debris, NEVER dry sweep as it may excite silica dust particles into the user's breathing area. Instead, wet debris down with a fine mist to suppress dust during sweeping, or use a HEPA vacuum to collect particles.

Important Notes:

1. For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best"-level cutting methods where feasible
2. NEVER use a power saw indoors
3. NEVER use a circular saw blade that does not carry the HardieBlade® saw blade trademark
4. NEVER dry sweep – use wet suppression methods or HEPA vacuum
5. NEVER use a grinder or continuous rim diamond blade for cutting
6. ALWAYS follow tool manufacturer's safety recommendations

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state: solid, stable fibre cement boards of varying dimensions

Colour:	**G**ray
Odour:	Characteristic
Odour threshold:	Not determined
pH- value:	Not determined
Melting point/ freezing point:	Not relevant
Initial boiling point and boiling range	Not relevant
Flashpoint:	Not relevant
Flammability :	Product is not flammable.
Explosive properties:	Product is not explosive.
Explosion limit:	
Lower:	Not relevant
Upper:	Not relevant
Vapour pressure:	Not relevant
Density:	1300 kg/m^3
Relative density:	Not relevant
Vapour density:	Not relevant
Verdampfungsgeschwindigkeit	Not relevant
Water solubility:	Insoluble
Viskosity:	Not relevant

9.2 Other information

No information available at present.

SECTION 10: Stability and reactivity

10.1 Reactivity
No dangerous reactions known, when stored and used as directed.

10.2 Chemical stability
Chemically stable, no decomposition, when stored and used as directed.
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10.3 Possibility to hazardours reactions
No dangerous reactions known, when stored and used as directed.

10.4 Conditions to avoid
Excessive dust generation during storage and handling.

10.5 Incombatible materials
No dangerous reactions known, when stored and used as directed.
Hydrofluoric acid will dissolve silica and can generate silicon tetrafluoride, a corrosive gas. Contact with strong oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride or oxygen difluoride may cause fires and/or explosions.

10.6 Hazardous decomposition products:
No dangerous reactions known, when stored and used as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
The product is not toxic in its intact form. The following applies to dust that may be generated during cutting and sanding:
LD50: Silicon Dioxide: Rat oral >22,500 mg/kg Mouse oral>10,500 mg/kg
Specific target organ toxicity- repeated exposure
Repeated and prolonged overexposures to dust containing crystalline silica can cause silicosis (scarring of the lung) and increases the risk of bronchitis, tuberculosis, lung cancer, renal disease and scleroderma (a disease affecting the connective tissue of the skin, joints, blood vessels and internal organs). Some studies suggest that cigarette smoking increases the risk of silicosis, bronchitis, and lung cancer in persons also exposed to crystalline silica. Acute silicosis is a rapidly progressive, incurable lung disease that is typically fatal. Symptoms include, but are not limited to: shortness of breath, cough, fever, weightloss and chest pain. Such exposure may cause pneumoconiosis and pulmonary fibrosis.
The following relates to health effects of cellulose: Based on limited animal research, it is possible that repeated chronic inhalation exposure to cellulose fibre dust over time may lead to inflammation and scarring of the lung in humans. Precautions taken for crystalline silica dust will protect against cellulose.

SECTION 12: Ecological information

There is a very limited amount of ecological data available on the effects of releases that may occur from this product being released into the environment. Clean up of the spilled product would not be expected to leave any hazardous material that could cause a significant adverse impact. There is a limited amount of ecological data available on crystalline silica, primarily because it is a naturally occurring mineral. An adequate representation of these data is beyond the scope of this document.

12.1 Toxicity
No relevant information known.

12.2 Persistence and degradability
No relevant information known.

12.3 Bioaccumulative potential
No relevant information known.

12.4 Mobility in soil
No relevant information known.

12.5 Results of PBT- und vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

12.6 Other adverse effects
No relevant information known.

SECTION 13: Disposal considerationsng

13.1 Waste treatment methods
For the product:
M Dispose of material as inert, non-metallic mineral in conformance with local regulations, EWC waste code 170101 for concrete.
For contaminated packing material:
Disposal according to official local regulations.

SECTION 14: Transport information

General statements

14.1 UN-Number	n.a.
Transport by road/ by rail (ADR/ RID)	
14.2 UN-proper shipping name:	n.a.
14.3 Transport hazard class(es):	n.a.
14.4 Packing group:	n.a.
Classification code:	n.a.
LQ:	n.a.
14.5 Environmental hazards	Not applicable.
Transport by sea (IMDG-Code)	
14.2 UN-proper shipping name:	n.a.
14.3 Transport hazard class(es):	n.a.
14.4 Packing group:	n.a.
Marine Pollutant:	n.a.
14.5 Environmental hazards	Not applicable.
Transport by air (IATA))	
14.2 UN-proper shipping name:	n.a.
14.3 Transport hazard class(es):	n.a.
14.4 Packing group:	n.a.
14.5 Environmental hazards	Not applicable.

14.6 Special precautions for user
Unless specified otherwise, general measures for safe transport must be followed.

14.7 Transport in bulk according to Annex II des MARPOL and IBC-Code
Non- dangerous material according to Transport Regulations.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/ legislation specific for the substance or mixture
The product is not classified as dangerous in the terms of Regulation (EC) No 1272/2008 (CLP).
Special provisions:
None.
Technical instructions air:
The product contains no classified substances.
Water hazard class:
WGK 0 (not hazardous to water).

15.2 Chemical safety assessment:
A chemical safety assessment is not provided for this product.

SECTION 16: Other information

The information provided in this Safety Data Sheet is based on our present knowledge and is made to the best of our knowledge. However this shall not constitute a guarantee, including a guarantee of correctness. We expressly exclude any liability for damage and claims that may arise from handling, shipping and storing of the product or its disposal. This Safety Data Sheet shall only be used for the product that is specified above. If the product is used as part of other products, the details provided in this Safety Data Sheet may no longer apply.

Warning
HEALTH WARNING – AVOID BREATHING DUST
James Hardie® products contain crystalline silica. This mineral is found everywhere in the world – often in the form of sand - and, therefore, commonly used in many construction products (for example brick, concrete, glass wool and abrasives). The mineral itself is inert, but certain building practices such as drilling, high speed cutting and abrading can release fine particulate dust which may constitute a health hazard.
Excessive or protracted inhalation of fine particle silica dust can lead to a lung disease called silicosis. There is also some evidence that it may increase the risk of lung cancer if inhaled for prolonged periods. Smoking may also exacerbate this risk. Like smoking, the risk from fine particle silica dust is time and concentration dependent.
Control
To suppress or to reduce excessive inhalation of fine particle silica dust the following steps should be taken to protect operatives who work with products containing silica dust:
• During fabrication operate outdoors or in well ventilated space in a separate area if available or away and down-wind from other operatives;
• Use low speed, low dust cutting tools – Score-and snap-knife, HardieGuillotine®, HardieBlade® fitted to a circular saw connected to a dust extraction HEPA filter vacuum cleaner (see James Hardie® tools).
• When cutting, drilling or abrading always wear a FFP2/3 dust control or full face mask adjusted and fitted in conformity with regulatory recommendations and affixed with CE marking and/or fully certified to the relevant EN standards if applicable;
• Keep the working environment clean and remove debris as soon as possible;
• At the end of the operation remove dust from clothes, tools and work area with a HEPA filter vacuum cleaner or damp with water to suppress the dust before sweeping.

Remember, James Hardie® products are no more dangerous than many other building materials containing crystalline silica sand. We hope through this information to engage in effective education of the construction industry and build upon the requirements of national health and safety regulations.
This form has been prepared without any warranty or guarantee of any type. James Hardie Europe B.V. cannot control the use of its products, and therefore specifically disclaims liability and responsibility arising from the use, misuse and alteration of its products.
The information contained on this safety data sheet (SDS) was produced without independent scientific or medical studies analyzing the effects of silica upon human health. The information contained herein is based upon scientific and other data James Hardie Europe B.V. believes is valid and reliable and provides the basis for this SDS. The information contained herein relates only to specific materials listed in the document. It does not address the effects of silica when used in combination with other materials or substances, or when used in other processes. Because conditions of use are beyond James Hardie control, the company makes no representations, guarantees or warranties, either express or implied warranties as to the fitness of the product for use, and assumes no liability related to the information contained above.
James Hardie Europe B.V. requires, as a condition of use of its products, that purchasers comply with all applicable Federal, State, and Local health and safety laws, regulations, orders, requirements, and strictly adhere to all instructions and warnings which accompany the product.

Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)

PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative