1. Identification

Product identifier: INSBOARD 2300 SERIES

Other means of identification

Brand Code: 0579, 0580, 012B, 723C

Synonyms: INSBOARD 2300 LD; INSBOARD 2300 HD; INSBOARD 2300-45; INSBOARD 2300 HD H

Recommended use: For Industrial Use Only

Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name: HarbisonWalker International
Address: 1305 Cherrington Parkway, Suite 100
Moon Township, Pennsylvania 15108 US
Telephone: General Phone: 412-375-6600
Website: www.thinkHWI.com
Emergency phone number: CHEMTREC 24 HOUR 1-800-424-9300

2. Hazard(s) identification

Physical hazards: Not classified.

Health hazards: Carcinogenicity Category 2

Environmental hazards: Not classified.

OSHA defined hazards: Not classified.

Label elements

Signal word: Warning

Hazard statement: Suspected of causing cancer.

Precautionary statement

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection.

Response: If exposed or concerned: Get medical advice/attention.

Storage: Store locked up.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC): None known.

Supplemental information: None.

3. Composition/information on ingredients

Mixtures
<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
</table>
| Aluminosilicate Refractory Ceramic Fiber | REFRACTORY CERAMIC FIBERS  
REFRACTORY CERAMIC FIBER (RCF)  
High Temperature Insulation Wool (HTIW)  
SYNTHETIC VITREOUS FIBERS (SVF)  
REFRACTORY CERAMIC FIBRES  
Refractories, fibers, aluminosilicate  
Man-Made Mineral Fiber (MMMF)  
Man-Made Vitreous Fiber (MMVF)  
Alumino Silicate Wool (ASW) | 142844-00-6 | 80 - 90 |
| Starch                              |                                                                           | 9005-25-8   | 10 - 20 |
| Amorphous Silica                    | SILICA, AMORPHOUS, FUMED  
SILICA (CRYSTALLINE FREE)                                                 | 7631-86-9   | 2.5 - 10 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

**Composition comments**

This product contains Refractory Ceramic Fibers (RCF) or an RCF wrap or mat. IARC has classified RCFs as a possible human carcinogen, Group 2B. This classification was based on sufficient evidence of carcinogenicity in animals and no available data in humans. NTP classified respirable RCFs as reasonably anticipated carcinogens. Recent industry ongoing epidemiology studies show the general health of workers in the RCF industry was similar to that of workers in other dusty work environments. There have been no reports of mesothelioma, and the lung cancer rate appears similar to background rates, but the number of workers with a long latency period are too few for definitive conclusions. There was a small number of employees with an increased risk of developing pleural plaques (shadows along the inside of the chest wall). These plaques, however, are not known to cause symptoms or disability. HWI recommends that safe handling methods are followed, including air monitoring in areas wherever the potential exists for airborne fibers, minimizing airborne exposures through use of NIOSH approved respirators, and wearing protective clothing, gloves, and eye protection. For additional information please visit www.htiwcoaltion.org. Please review the workplace guidelines for additional handling information.

### 4. First-aid measures

| Inhalation                                | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact                              | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact                               | Rinse with water. Get medical attention if irritation develops and persists. |
| Ingestion                                 | Rinse mouth. Get medical attention if symptoms occur. |
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. |

*Indication of immediate medical attention and special treatment needed*

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

*General information*

IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting measures

**Suitable extinguishing media**

Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media**

Not available.

**Specific hazards arising from the chemical**

Not applicable.

**Special protective equipment and precautions for firefighters**

Not available.

### 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up**

Stop the flow of material, if this is without risk. Following product recovery, flush area with water. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

**Environmental precautions**

Avoid discharge into drains, water courses or onto the ground.
7. Handling and storage

Precautions for safe handling
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid prolonged exposure. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch (CAS 9005-25-8)</td>
<td>PEL</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td>Amorphous Silica (CAS 7631-86-9)</td>
<td>TWA</td>
<td>0.8 mg/m³</td>
<td></td>
</tr>
<tr>
<td>US. ACBigH Threshold Limit Values</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Starch (CAS 9005-25-8)</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Aluminosilicate Refractory Ceramic Fiber (CAS 142844-00-6)</td>
<td>TWA</td>
<td>3 fibers/cm³</td>
<td>Fiber.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 fibers/cm³</td>
<td>Dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/m³</td>
<td>fibers, total dust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/m³</td>
<td>Fiber, total</td>
</tr>
<tr>
<td>Amorphous Silica (CAS 7631-86-9)</td>
<td>TWA</td>
<td>6 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Starch (CAS 9005-25-8)</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 mg/m³</td>
<td>Total</td>
</tr>
</tbody>
</table>

Biological limit values
No biological exposure limits noted for the ingredient(s).

Exposure guidelines
Recommended Exposure Guideline 0.5 Fiber/CC There is no specific regulatory standard for RCF in the U.S. OSHA's "Particulate Not Otherwise Regulated (PNOR)" standard [29 CFR 1910.1000, Subpart Z, Air Contaminants] applies generally; Total Dust 15 mg/m³, Respirable Fraction 5 mg/m³. The High Temperature Insulation Wool Coalition (HTIW) has sponsored comprehensive toxicology and epidemiology studies to identify potential RCF-related health effects [see Section 11 for more details], consulted experts familiar with fiber and particle science, conducted a thorough review of the RCF-related scientific literature, and further evaluated the data in a state-of-the-art quantitative risk assessment. Based on these efforts and in the absence of an OSHA PEL, HTIW has adopted a recommended exposure guideline, as measured under NIOSH method 7400B. The manufacturers' REG is intended to promote occupational health and safety through prudent exposure control and reduction and it reflects relative technical and economic feasibility as determined by extensive industrial hygiene monitoring efforts undertaken pursuant to an agreement with the U.S. Occupational Safety and Health Administration (OSHA). OTHER OCCUPATIONAL EXPOSURE LEVELS (OEL) Non-regulatory OEL decisions also vary. The evaluation of occupational exposure limits and determining their relative applicability to the workplace is best performed, on a case-by-case basis, by a qualified Industrial Hygienist.

Appropriate engineering controls
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection
If contact is likely, safety glasses with side shields are recommended.
Skin protection

Hand protection
Wear appropriate chemical resistant gloves.

Other
Use of an impervious apron is recommended.

Respiratory protection
Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations
Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance
- Physical state: Solid.
- Form: Solid. Pressed fibrous material panel
- Color: Not available.
- Odor: Not available.
- Odor threshold: Not available.
- pH: Not available.
- Melting point/freezing point: Not available.
- Initial boiling point and boiling range: Not available.
- Flash point: Not available.
- Evaporation rate: Not available.
- Flammability (solid, gas): Not available.

Upper/lower flammability or explosive limits
- Flammability limit - lower (%): Not available.
- Flammability limit - upper (%): Not available.
- Explosive limit - lower (%): Not available.
- Explosive limit - upper (%): Not available.

Vapor pressure: Not available.
Vapor density: Not available.
Relative density: Not available.
Solubility(ies)
- Solubility (water): Not available.
- Partition coefficient (n-octanol/water): Not available.
- Auto-ignition temperature: Not available.
- Decomposition temperature: Not available.
- Viscosity: Not available.

Other information
- Explosive properties: Not explosive.
- Oxidizing properties: Not oxidizing.

10. Stability and reactivity

Reactivity
The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability
Material is stable under normal conditions.
Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.

Conditions to avoid
Contact with incompatible materials.

Incompatible materials
Incompatibility is based strictly upon potential theoretical reactions between chemicals and may not be specific to industrial application exposure.

Hazardous decomposition products
No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
Prolonged inhalation may be harmful.

Skin contact
No adverse effects due to skin contact are expected.

Eye contact
Direct contact with eyes may cause temporary irritation.

Ingestion
Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics

Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity
Not known.

Skin corrosion/irritation
Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation
Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization
Not a respiratory sensitizer.

Skin sensitization
This product is not expected to cause skin sensitization.

Germ cell mutagenicity
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity
Aluminosilicate Refractory Ceramic Fiber (CAS 142844-00-6) 2B Possibly carcinogenic to humans.
Amorphous Silica (CAS 7631-86-9) 3 Not classifiable as to carcinogenicity to humans.

US. National Toxicology Program (NTP) Report on Carcinogens
Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not regulated.

Reproductive toxicity
This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure
Not classified.

Specific target organ toxicity - repeated exposure
Not classified.

Aspiration hazard
Not an aspiration hazard.

Chronic effects
Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability
No data is available on the degradability of this product.

Bioaccumulative potential
No data available.

Mobility in soil
No data available.

Other adverse effects
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.
13. Disposal considerations

Disposal instructions  This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

Hazardous waste code  Since this product is used in several industries, no Waste Code can be provided by the supplier. The Waste Code should be determined in arrangement with your waste disposal partner or the responsible authority.

Waste from residues / unused products  Not available.
Contaminated packaging  Not available.

14. Transport information

DOT  Not regulated as dangerous goods.
IATA  Not regulated as dangerous goods.
IMDG  Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  Not applicable.

15. Regulatory information

US federal regulations  This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. Toxic Substances Control Act (TSCA) Section 12(b) - This product has been assigned a CAS number; however, it is an "article" under TSCA and therefore exempt from listing on the TSCA inventory. All chemical substances in this product are listed on the TSCA chemical substance inventory where required.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)  Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)  Not listed.
SARA 304 Emergency release notification  Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories  Immediate Hazard - No
Modified Hazard - No
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance  Not listed.
SARA 311/312 Hazardous chemical  No
SARA 313 (TRI reporting)  Not regulated.

Other federal regulations
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List  Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)  Not regulated.
Safe Drinking Water Act (SDWA)  Not regulated.

US state regulations  California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.
International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
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<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
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<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
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<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>No</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>No</td>
</tr>
</tbody>
</table>

*A “Yes” indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
* A “No” indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date          03-11-2016
Revision date       08-28-2017
Version #           02

Disclaimer          This information is based on our present knowledge on creation date. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Revision information This document has undergone significant changes and should be reviewed in its entirety.