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

1.1. Product identifier
Trade name or designation of the mixture: ‘SAIRBOND
Registration number: -
Synonyms: None.
Brand Code: 5001
Issue date: 07-09-2015
Version number: 01

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses: For Industrial Use Only
Uses advised against: Users should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

1.3. Details of the supplier of the safety data sheet
Supplier: HarbisonWalker International
Address: 1305 Cherrington Parkway, Suite 100
Moon Township, PA 15108, USA

Division: US
Telephone: General Phone: 412-375-6600
CHEMTREC 24 HOUR EMERGENCY # 1-800-424-9300
INTERNATIONAL # 1-703-527-3887

Contact person: ANH USA

1.4. Emergency telephone number: Not available.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Directive 67/548/EEC or 1999/45/EC as amended
Classification: N;R51/53
The full text for all R-phrases is displayed in section 16.

Classification according to Regulation (EC) No 1272/2008 as amended
Health hazards
Carcinogenicity: Category 1A
H350 - May cause cancer.

Hazard summary
Physical hazards: Not classified for physical hazards.
Health hazards: Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.
Environmental hazards: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Specific hazards: Prolonged exposure may cause chronic effects. For additional information on inhalation hazards, see Section 11 of this safety data sheet.
Main symptoms: Dusts may irritate the respiratory tract, skin and eyes.

2.2. Label elements
Label according to Regulation (EC) No. 1272/2008 as amended
Contains: 120359, Cristobalite, Quartz (SiO2), Titanium Dioxide
Hazard pictograms

Signal word
Danger

Hazard statements
H350
May cause cancer.

Precautionary statements

Prevention
P201
Obtain special instructions before use.
P202
Do not handle until all safety precautions have been read and understood.
P280
Wear protective gloves/protective clothing/eye protection.

Response
P308 + P313
If concerned: Get medical advice/attention.

Storage
P405
Store locked up.

Disposal
P501
Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information
Users should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Overexposure to the respirable dust of crystalline silica (quartz or cristobalite, less than or equal to 5 microns in size) may lead to silicosis in humans, which is a progressive and irreversible lung disease. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

2.3. Other hazards
None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>%</th>
<th>CAS-No. / EC No.</th>
<th>REACH Registration No.</th>
<th>Index No.</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cristobalite</td>
<td>10 - 20</td>
<td>14464-46-1</td>
<td>238-455-4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Classification:</td>
<td>DSD:</td>
<td>-</td>
<td>CLP: Carc. 1A;H350</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silicic Acid, Sodium Salt</td>
<td>10 - 20</td>
<td>1344-09-8</td>
<td>215-887-4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Classification:</td>
<td>DSD:</td>
<td>Xn;R22, N;R50/53</td>
<td>CLP: Acute Tox. 4;H302, Aquatic Acute 1;H400, Aquatic Chronic 1;H410</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120359</td>
<td>3 - 5</td>
<td></td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Classification:</td>
<td>DSD:</td>
<td>-</td>
<td>CLP: Carc. 1A;H350</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quartz (SiO2)</td>
<td>3 - 5</td>
<td>14808-60-7</td>
<td>238-878-4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Classification:</td>
<td>DSD:</td>
<td>-</td>
<td>CLP: Carc. 1A;H350</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>&lt; 0,3</td>
<td>13463-67-7</td>
<td>236-675-5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Classification:</td>
<td>DSD:</td>
<td>-</td>
<td>CLP: Carc. 2;H351</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other components below reportable levels  60 - < 70
SECTION 4: First aid measures

General information
If concerned: Get medical advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of 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
Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.

Ingestion
Rinse mouth. Get medical attention if symptoms occur.

4.2. Most important symptoms and effects, both acute and delayed

Dusts may irritate the respiratory tract, skin and eyes.

4.3. Indication of any immediate medical attention and special treatment needed

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

SECTION 5: Firefighting measures

General fire hazards
Not available.

5.1. Extinguishing media

Suitable extinguishing media
Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media
Not available.

5.2. Special hazards arising from the substance or mixture

Not available.

5.3. Advice for firefighters

Not available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
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.

For emergency responders
Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Avoid the generation of dusts during clean-up. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

6.4. Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Do not breathe dust. Avoid prolonged exposure. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
7.2. Conditions for safe storage, including any incompatibilities
Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s)
Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cristobalite (CAS 14464-46-1)</td>
<td>TWA</td>
<td>0,15 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td>Kaolin (CAS 1332-58-7)</td>
<td>TWA</td>
<td>0,05 mg/m³</td>
<td>Respirable dust.</td>
</tr>
<tr>
<td>Mullite (CAS 1302-93-8)</td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>Respirable dust.</td>
</tr>
<tr>
<td>Quartz (SiO₂) (CAS 14808-60-7)</td>
<td>TWA</td>
<td>0,3 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td>Titanium Dioxide (CAS 13463-67-7)</td>
<td>TWA</td>
<td>0,1 mg/m³</td>
<td>Respirable dust.</td>
</tr>
</tbody>
</table>

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

Recommended monitoring procedures
Follow standard monitoring procedures.

Derived no-effect level (DNEL)
Not available.

Predicted no effect concentrations (PNECs)
Not available.

Exposure guidelines
Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

8.2. Exposure controls

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. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

Individual protection measures, such as personal protective equipment

General information
Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection
Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter.

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.

Hygiene measures
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.

Environmental exposure controls
Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance
Physical state: Solid.
Form: Solid Powder.
Color: Not available.
Odor: Not available.
Odor threshold: Not available.
pH: 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.
Vapor pressure: Not available.
Vapor density: Not available.
Relative density: Not available.
Solubility(ies):
  Solubility (water): Not available.
  Solubility (other): Not available.
Partition coefficient (n-octanol/water): Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.
Explosive properties: Not available.
Oxidizing properties: Not available.
9.2. Other information:
No relevant additional information available.

SECTION 10: Stability and reactivity
10.1. Reactivity:
The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability:
Material is stable under normal conditions.
10.3. Possibility of hazardous reactions:
No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid:
Contact with incompatible materials.
10.5. Incompatible materials:
Strong oxidizing agents.
Incompatibility is based strictly upon potential theoretical reactions between chemicals and may not be specific to industrial application exposure. Contact your sales representative for clarification.
10.6. Hazardous decomposition products:
No hazardous decomposition products are known.

SECTION 11: Toxicological information
General information:
Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of exposure:
  Inhalation: Dust may irritate respiratory system. Prolonged inhalation may be harmful.
  Skin contact: Dust or powder may irritate the skin.
  Eye contact: Dust may irritate the eyes.
  Ingestion: May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.
Symptoms:
Dusts may irritate the respiratory tract, skin and eyes.
11.1. Information on toxicological effects:
Acute toxicity:
No data available.
Skin corrosion/irritation:
Due to partial or complete lack of data the classification is not possible.
Serious eye damage/eye irritation: Due to partial or complete lack of data the classification is not possible.
Respiratory sensitization: Due to partial or complete lack of data the classification is not possible.
Skin sensitization: Due to partial or complete lack of data the classification is not possible.
Germ cell mutagenicity: Due to partial or complete lack of data the classification is not possible.
Carcinogenicity:

In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However, in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. May cause cancer. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.

IARC Monographs. Overall Evaluation of Carcinogenicity

<table>
<thead>
<tr>
<th>Substance</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cristobalite (CAS 14464-46-1)</td>
<td>1 Carcinogenic to humans.</td>
</tr>
<tr>
<td>Quartz (SiO2) (CAS 14808-60-7)</td>
<td>1 Carcinogenic to humans.</td>
</tr>
<tr>
<td>Titanium Dioxide (CAS 13463-67-7)</td>
<td>2B Possibly carcinogenic to humans.</td>
</tr>
</tbody>
</table>

Reproductive toxicity: Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - single exposure: Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - repeated exposure: Due to partial or complete lack of data the classification is not possible.
Aspiration hazard: Due to partial or complete lack of data the classification is not possible.
Mixture versus substance information: No information available.
Other information: Not available.

SECTION 12: Ecological information

12.1. Toxicity: 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.
12.2. Persistence and degradability: No data is available on the degradability of this product.
12.3. Bioaccumulative potential: No data available.
Partition coefficient n-octanol/water (log Kow): Not available.
Bioconcentration factor (BCF): Not available.
12.4. Mobility in soil: No data available.
12.5. Results of PBT and vPvB assessment: Not available.
12.6. 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.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Residual waste: Not available.
Contaminated packaging: Not available.
EU waste code: Not available.
Disposal methods/information: 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.
SECTION 14: Transport information

ADR
Not regulated as dangerous goods.

RID
Not regulated as dangerous goods.

ADN
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

14.7. Transport in bulk
according to Annex II of
MARPOL 73/78 and the IBC
Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations
- Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex I
  Not listed.
- Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex II
  Not listed.
  Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1
  Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2
  Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3
  Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V
  Not listed.
- Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry
  Not listed.
- Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA
  Not listed.

Authorizations
- Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended
  Not listed.

Restrictions on use
- Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use
  Silicic Acid, Sodium Salt (CAS 1344-09-8)
- Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work
  Not listed.
- Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding
  Not listed.

Other EU regulations
- Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances
  Not listed.
- Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work
  Not listed.
- Directive 94/33/EC on the protection of young people at work
  Not listed.

Other regulations
The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.
National regulations

Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work. Follow national regulation for work with chemical agents.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

Not available.

References

Not available.

Information on evaluation method leading to the classification of mixture

Not available.

Full text of any statements or R-phrases and H-statements under Sections 2 to 15

R22 Harmful if swallowed.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
H302 Harmful if swallowed.
H350 May cause cancer.
H351 Suspected of causing cancer.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Revision information

None.

Training information

Not available.

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.