SAFETY DATA SHEET

1. Identification

Product identifier   Astro® Acoustical Ceiling Panels
Other means of identification
   SDS number  41263310001
   Additional Products  Astro® Illusion, Astro® FIRECODE™
   Synonyms  Ceiling Tiles, Water Felted Mineral Fiber Ceiling Panels/Tiles

Recommended use
   Interior use.

Recommended restrictions
   Use in accordance with manufacturer's recommendations.

Manufacturer/Importer/Supplier/Distributor information
   Company name  USG Interiors, LLC
   Address  550 West Adams Street
             Chicago, Illinois 60661-3637
   Telephone  1-800-874-4968
   Website  www.usg.com
   Emergency phone number  1-800-507-8899

2. Hazard(s) identification

Physical hazards  Not classified.
Health hazards  Not classified.
OSHA defined hazards  Not classified.

Label elements
   Hazard symbol  None.
   Signal word  None.
   Hazard statement  None.

Precautionary statement
   Prevention  Observe good industrial hygiene practices.
   Response  Get medical attention/advice if you feel unwell.
   Storage  Store as indicated in Section 7.
   Disposal  Dispose of in accordance with local, state, and federal regulations.

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

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slag wool fiber</td>
<td>N/A</td>
<td>&gt; 70</td>
</tr>
<tr>
<td>Kaolin</td>
<td>1332-58-7</td>
<td>&lt; 10</td>
</tr>
<tr>
<td>Perlite</td>
<td>93763-70-3</td>
<td>&lt; 10</td>
</tr>
<tr>
<td>Starch</td>
<td>9005-25-8</td>
<td>&lt; 5</td>
</tr>
<tr>
<td>Calcium sulfate dihydrate</td>
<td>13397-24-5</td>
<td>&lt; 2</td>
</tr>
</tbody>
</table>

(alternative CAS 10101-41-4)

Astro® Acoustical Ceiling Panels  SDS US
917993  Version #: 01  Revision date: -  Issue date: 23-December-2014

1 / 7
Composition comments

All concentrations are in percent by weight unless ingredient is a gas.

Raw materials and/or coatings in this product contain small amounts of titanium dioxide, which has been classified as possibly carcinogenic to humans by the International Agency for Research on Cancer (IARC). However, per IARC “no significant exposure to primary particles of titanium dioxide is thought to occur during the use of products in which titanium dioxide is bound to other materials, such as in paints” (1). See Section 16 for further information.

4. First-aid measures

Inhalation
Dust irritates the respiratory system, and may cause coughing and difficulties in breathing. Move injured person into fresh air and keep person calm under observation. Get medical attention if symptoms persist.

Skin contact
Contact with dust: Rinse area with plenty of water. Get medical attention if irritation develops or persists.

Eye contact
Dust in the eyes: Do not rub eyes. Flush thoroughly with water. If irritation occurs, get medical assistance.

Ingestion
Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed
Under normal conditions of intended use, this product is not expected to be a health risk. Dust may irritate throat and respiratory system and cause coughing.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically.

General information
Ensure that medical personnel are aware of the material(s) involved.

5. Fire-fighting measures

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

Unsuitable extinguishing media
Not applicable.

Specific hazards arising from the chemical
Not a fire hazard.

Special protective equipment and precautions for firefighters
Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions
Use standard firefighting procedures and consider the hazards of other involved materials.

Specific methods
Cool material exposed to heat with water spray and remove it if no risk is involved.

General fire hazards
No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
See Section 8 of the SDS for Personal Protective Equipment.

Methods and materials for containment and cleaning up
No specific clean-up procedure noted. For waste disposal, see Section 13 of the SDS.

Environmental precautions
Avoid discharge to drains, sewers, and other water systems.

7. Handling and storage

Precautions for safe handling
Use work methods which minimize dust production. Avoid inhalation of dust and contact with skin and eyes. Wear appropriate personal protective equipment. Wash hands after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Store away from incompatible materials.
8. Exposure controls/personal protection

### Occupational exposure limits

**U.S. - OSHA**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slag wool fiber (CAS N/A)</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Fiber, respirable (diameter ≤ 3.5 µm and length ≥ 10 µm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m³</td>
<td>Fiber, total</td>
</tr>
</tbody>
</table>

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium sulfate dihydrate</td>
<td>PEL</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td>(alternative CAS 10101-41-4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(CAS 13397-24-5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kaolin (CAS 1332-58-7)</td>
<td>PEL</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td>Starch (CAS 9005-25-8)</td>
<td>PEL</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
</tbody>
</table>

**US. ACGIH Threshold Limit Values**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium sulfate dihydrate</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Inhalable fraction.</td>
</tr>
<tr>
<td>(alternative CAS 10101-41-4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(CAS 13397-24-5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kaolin (CAS 1332-58-7)</td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td>Slag wool fiber (CAS N/A)</td>
<td>TWA</td>
<td>1 fibers/cm³</td>
<td>Fiber, respirable (length &gt; 5 µm and aspect ratio ≥ 3:1)</td>
</tr>
<tr>
<td>Starch (CAS 9005-25-8)</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

**US. NIOSH: Pocket Guide to Chemical Hazards**

<table>
<thead>
<tr>
<th>Components</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Calcium sulfate dihydrate</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Respirable.</td>
</tr>
<tr>
<td>(alternative CAS 10101-41-4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(CAS 13397-24-5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kaolin (CAS 1332-58-7)</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Total</td>
</tr>
<tr>
<td>Perlite (CAS 93763-70-3)</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>
<tr>
<td>Slag wool fiber (CAS N/A)</td>
<td>TWA</td>
<td>3 fibers/cm³</td>
<td>Fiber, respirable (diameter ≤ 3.5 µm and length ≥ 10 µm)</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**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Appropriate engineering controls**

Provide sufficient ventilation for operations causing dust formation. Observe occupational exposure limits and minimize the risk of exposure. Cut and trim with a utility knife or hand saw to minimize dust levels. If a router is used it must have a dust collection system. Operations such as power cutting, power kerfing or using compressed air to remove dust are not recommended (2). See Section 16 for further information.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Wear approved safety goggles.
Skin protection

Hand protection
It is a good industrial hygiene practice to minimize skin contact. For prolonged or repeated skin contact use suitable protective gloves.

Other
Normal work clothing (long sleeved shirts and long pants) is recommended.

Respiratory protection
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Use a NIOSH/MSHA approved air purifying respirator as needed to control exposure. Consult with respirator manufacturer to determine respirator selection, use, and limitations. Use positive pressure, air-supplied respirator for uncontrolled releases or when air purifying respirator limitations may be exceeded. Follow respirator protection program requirements (OSHA 1910.134 and ANSI Z88.2) for all respirator use.

Thermal hazards
None.

General hygiene considerations
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 separately from regular wash. Observe any medical surveillance requirements.

9. Physical and chemical properties

Appearance
Physical state Solid.
Form Panel.
Color White surface; beige/gray core.
Odor Low to no odor.
Odor threshold Not applicable.

pH 9

Melting point/freezing point 2200 °F (1204.44 °C) (Slag wool)
Initial boiling point and boiling range Not applicable.
Flash point Not applicable.
Evaporation rate Not applicable.
Flammability (solid, gas) Not applicable.

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

Vapor pressure Not applicable.
Vapor density Not applicable.
Relative density 0.23 - 0.28 (H2O=1)

Solubility(ies)
Solubility (water) Very low solubility in water.

Partition coefficient (n-octanol/water) Not applicable.
Auto-ignition temperature Not applicable.
Decomposition temperature Not applicable.
Viscosity Not applicable.

Other information
Bulk density 15 - 18 lb/ft³
VOC (Weight %) N/A (solid) (see section 16 for further detail)

10. Stability and reactivity

Reactivity Not available.
Chemical stability Material is stable under normal conditions.
Possibility of hazardous reactions
Hazardous polymerization does not occur.

Conditions to avoid
Contact with incompatible materials.

Incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure
- **Inhalation**: Inhalation of dusts may cause respiratory irritation.
- **Skin contact**: May cause irritation through mechanical abrasion.
- **Eye contact**: Direct contact with airborne particulates may cause temporary irritation.
- **Ingestion**: Ingestion may cause irritation and stomach discomfort.

Symptoms related to the physical, chemical and toxicological characteristics
Under normal conditions of intended use, this material does not pose a risk to health.

Information on toxicological effects
- **Acute toxicity**: Not expected to be a hazard under normal conditions of intended use.
- **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**: No data available, but none expected.
- **Germ cell mutagenicity**: No data available, but none expected.
- **Carcinogenicity**: Not expected to cause cancer.

Not listed.

Reproductive toxicity
- **No data available, but none expected.**

Specific target organ toxicity - single exposure
- **No data available, but none expected.**

Specific target organ toxicity - repeated exposure
- **No data available, but none expected.**

Aspiration hazard
Due to the physical form of the product it is not an aspiration hazard.

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
Bioaccumulation is not expected.

Mobility in soil
No data available.

Other adverse effects
None expected.

13. Disposal considerations

Disposal instructions
Dispose in accordance with applicable federal, state, and local regulations. Recycle responsibly.

Local disposal regulations
Dispose of in accordance with local regulations.

Hazardous waste code
Not regulated.

Waste from residues / unused products
Dispose of in accordance with local regulations.

Contaminated packaging
Dispose of in accordance with local regulations.

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 not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

   TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
   Not regulated.

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

   CERCLA Hazardous Substance List (40 CFR 302.4)
   Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

   Hazard categories
   Immediate Hazard - No
   Delayed Hazard - No
   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

   US. Massachusetts RTK - Substance List
   Calcium sulfate dihydrate (alternative CAS 10101-41-4) (CAS 13397-24-5)
   Kaolin (CAS 1332-58-7)
   Perlite (CAS 93763-70-3)
   Starch (CAS 9005-25-8)

   US. New Jersey Worker and Community Right-to-Know Act
   Calcium sulfate dihydrate (alternative CAS 10101-41-4) (CAS 13397-24-5)
   Kaolin (CAS 1332-58-7)
   Perlite (CAS 93763-70-3)

   US. Pennsylvania Worker and Community Right-to-Know Law
   Calcium sulfate dihydrate (alternative CAS 10101-41-4) (CAS 13397-24-5)
   Kaolin (CAS 1332-58-7)
   Perlite (CAS 93763-70-3)
   Starch (CAS 9005-25-8)

   US. Rhode Island RTK
   Not regulated.

   US. California Proposition 65
   This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.
16. Other information, including date of preparation or last revision

Issue date: 23-December-2014
Revision date: -
Version #: 01

Further information

Slag Wool Fiber: Large morbidity and mortality studies of both European and North American mineral wool manufacturing workers have been conducted. These studies have found no significant association of non-malignant (i.e., fibrosis) or malignant (i.e., lung cancer or mesothelioma) lung disease and exposures to slag wool fibers and have not established a causal relationship between exposure and non-malignant or malignant diseases.

In 2001, the International Agency for Research on Cancer (IARC) assigned slag wool fiber to the Group 3 category ["not classifiable as to carcinogenicity to humans"]. The synthetic mineral fiber used in this product is exonerated from classification as a carcinogen in accordance with Note Q in the EU Commission Directive 97/69/EC.

Titanium dioxide: Raw materials and/or coatings in this product contain small amounts of titanium dioxide. The International Agency for Research on Cancer (IARC) has determined that titanium dioxide is possibly carcinogenic to humans (Group 2B) based on inadequate evidence in humans and sufficient evidence in experimental animals. This conclusion relates to long-term inhalation exposure to high concentrations of pigmentary (powdered) or ultrafine titanium dioxide. However, no significant exposure to primary particles of titanium dioxide is thought to occur during the use of products in which titanium dioxide is bound to other materials, such as in paints. The available human studies do not suggest an association between occupational exposure to titanium dioxide and risk for cancer (1).

The American Conference of Governmental Industrial Hygienists (ACGIH) has designated this chemical as not classifiable as a human carcinogen (A4).

The US National Toxicology Program (NTP) has not listed this chemical in its report on carcinogens.

VOC Emissions: USG certifies the above listed products are Low-Emitting, defined as a concentration for each individual volatile organic compound specified in the Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers (CA/DHS/EHLB/R-174, 2004; aka, chamber testing portion of CA Section 01350) and ASTM Standard Guide D5116-06.

NFPA Ratings:
Health: 1
Flammability: 0
Physical hazard: 0
NFPA Hazard Scale: 0 = Minimal  1 = Slight  2 = Moderate  3 = Serious  4 = Severe

References


Disclaimer

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.