SAFETY DATA SHEET

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

1.1. Product identifier
Trade name or designation of the mixture: TZ 150 PATCH
Registration number: -
Synonyms: None.
Brand Code: 8515
Issue date: 09-April-2018
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
Company name: HarbisonWalker International
Address: 1305 Cherrington Parkway, Suite 100
Moon Township, PA 15108, USA
United States
Division: -
Telephone: General Phone: 412-375-6600
CHEMTREC EMERGENCY 1-800-424-9300
US/CAN ONLY
E-mail: sds@thinkHWI.com
Contact person: HWI USA

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 Regulation (EC) No 1272/2008 as amended
Health hazards
Skin corrosion/irritation Category 1A H314 - Causes severe skin burns and eye damage.
Serious eye damage/eye irritation Category 1 H318 - Causes serious eye damage.

Hazard summary: Causes severe skin burns and eye damage. Occupational exposure to the substance or mixture may cause adverse health effects.

2.2. Label elements
Label according to Regulation (EC) No. 1272/2008 as amended

Hazard pictograms:

Signal word: Danger

Hazard statements:
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

Precautionary statements:
Prevention
Do not breathe vapour.
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.

**Response**

- P301 + P330 + P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310: Immediately call a POISON CENTER/doctor.
- P363: Wash contaminated clothing before reuse.

**Storage**

- P405: Store locked up.

**Disposal**

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

**Supplemental label information**

Bauxite Clays and Zircon Sands may contain trace quantities of naturally occurring radioactive uranium and thorium (less than or equal to 260 ppm uranium plus 180 ppm thorium = 440 ppm total U + Th or 0.044 % w/w, equivalent to 110 pCi/g or less), and radium (less than or equal to 120 pCi/g). Naturally Occurring Radioactive Material, namely uranium, thorium, and their decay products, including radium, is commonly referred to as "NORM".

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

**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>Orthophosphoric acid</td>
<td>2.5 - 10</td>
<td>7664-38-2</td>
<td>-</td>
<td>015-011-00-6</td>
<td>#</td>
</tr>
<tr>
<td></td>
<td></td>
<td>231-633-2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classification:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin Irrit. 2;H315, Eye Irrit. 2;H319</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminium Oxide (Non-Fibrous)</td>
<td>0.1 - 1</td>
<td>1344-28-1</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>215-691-6</td>
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<td></td>
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<tr>
<td>Classification:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other components below reportable levels 90 - 100

**List of abbreviations and symbols that may be used above**

#: This substance has been assigned Union workplace exposure limit(s).
M: M-factor
PBT: persistent, bioaccumulative and toxic substance.
vPvB: very persistent and very bioaccumulative substance.
All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**Composition comments**

The full text for all H-statements is displayed in section 16.

**SECTION 4: First aid measures**

**General information**

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**: Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control centre immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
- **Eye contact**: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control centre immediately.
Ingestion

Call a physician or poison control centre immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

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

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

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

Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

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

Special protective equipment for firefighters: Not available.

Special fire fighting procedures: 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. Do not breathe vapour. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spills cannot be contained. For personal protection, see section 8 of the SDS.

For emergency responders:

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

6.2. Environmental precautions

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

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

Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Do not breathe vapour. Do not get in eyes, on skin, or on clothing. 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 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

**UK. EH40 Workplace Exposure Limits (WELs)**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthophosphoric acid (CAS 7664-38-2)</td>
<td>STEL</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td>Zircon (CAS 14940-68-2)</td>
<td>STEL</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>5 mg/m³</td>
</tr>
</tbody>
</table>


<table>
<thead>
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</tr>
<tr>
<td></td>
<td>TWA</td>
<td>1 mg/m³</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 levels (DNELs)**

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. Occupational Exposure Limits are not relevant to the current physical form of the product. Zirconium silicates (zircon sands) contain trace amounts (106-120 pCi/g) of naturally occurring radioactive uranium and thorium. Overexposure by inhalation to respirable dust containing uranium and thorium may cause lung cancer. Eye contact with the dust may cause eye irritation. Measurements made by Dupont during the use of a similar mineral sand indicated the observance of the 5 mg/m³ OSHA PEL for respirable dust and/or the PEL for quartz ensures the user is below the exposure limits established for uranium and thorium. No LD50 or LC50 can be found for zircon sand.

**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. Eye wash facilities and emergency shower must be available when handling this product.

**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**

Wear safety glasses with side shields (or goggles) and a face shield.

**Skin protection**

- **Hand protection**
  
  Wear appropriate chemical resistant gloves.

- **Other**
  
  Wear appropriate chemical resistant clothing.

**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. Paste.

**Colour**  
Not available.

**Odour**  
Not available.

**Odour 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.

**Vapour pressure**  
Not available.

**Vapour 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 explosive.

**Oxidising properties**  
Not oxidising.

**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 oxidising agents.

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

**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**  
  May cause irritation to the respiratory system.

- **Skin contact**  
  Causes severe skin burns.

- **Eye contact**  
  Causes serious eye damage.

- **Ingestion**  
  Causes digestive tract burns.

**Symptoms**  
Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

**11.1. Information on toxicological effects**

**Acute toxicity**  
Not known.

**Skin corrosion/irritation**  
Causes severe skin burns and eye damage.
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. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled. Due to partial or complete lack of data the classification is not possible.

**SECTION 12: Ecological information**

12.1. Toxicity Based on available data, the classification criteria are not met for hazardous to the aquatic environment.

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

12.3. Bioaccumulative potential No data available.

12.4. Mobility in soil Not 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

14.1. - 14.6.: Not regulated as dangerous goods.
RID
14.1. - 14.6.: Not regulated as dangerous goods.

ADN
14.1. - 14.6.: Not regulated as dangerous goods.

IATA
14.1. - 14.6.: Not regulated as dangerous goods.

IMDG
14.1. - 14.6.: Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of Marpol 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 (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended
  Not listed.
- Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended
  Not listed.
- Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended
  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.

Authorisations
- 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
  Not regulated.
- Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended
  Not listed.
- Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work
  Not listed.

Other EU regulations
- Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended
  Not listed.

Other regulations
The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations
Follow national regulation for work with chemical agents. 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, as amended.
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 H-statements not written out in full under Sections 2 to 15
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Revision information
Product and Company Identification: Physical States
Composition / Information on Ingredients: Ingredients
Toxicological Information: Toxicological Data

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.