1. Identification of Preparation - Company

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Product Identity 46 Series Powdered Onglaze Colours
Numbers 4621 – Salmon

Made for Professional Users Only. This onglaze colour is a preparation of various materials, glass formers and colorants, some of which have already been pre-fritted or calcined, which can be painted onto glazed ceramic and fired to form a coloured decoration.

2. Composition by weight

<table>
<thead>
<tr>
<th>Component</th>
<th>Chemical Name</th>
<th>CAS</th>
<th>EINECS</th>
<th>Hazard</th>
<th>% by Weight of Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frit</td>
<td>lead borosilicate frit - chemical Pb 30% -40% of frit</td>
<td>65997-18-4</td>
<td>266-047-6</td>
<td>T N R61 R62</td>
<td>80 - 98</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Xn 20/22 33 50/53</td>
</tr>
<tr>
<td>Pigment red</td>
<td>zirconium iron coral spinel</td>
<td>68412-79-3</td>
<td>270-210-7</td>
<td>workplace OEL</td>
<td>10 - 20</td>
</tr>
</tbody>
</table>

3. Hazardous Identification

T - Toxic N - Dangerous for the Environment

Inhalation: inhalation from dust or spray may result in irritation to the respiratory tract, and lungs. Product contains a lead based frit which is a cumulative poison, symptoms of which may not develop quickly, but effects may include decreased physical stamina, fatigue, sleep disturbance, headaches, aching bones and muscles, constipation, abdominal pains and decreased appetite. Excessive and prolonged inhalation of large amounts may lead to seizures, coma or possibly death. Lead is also a teratogen and prolonged and excessive exposure by either parent before pregnancy or the mother during pregnancy may increase the chances of birth defects or miscarriage.

Ingestion: ingestion of large quantities may cause vomiting, nausea, diarrhea and irritation to the gastrointestinal tract. Ingestion of extremely large quantities over a long period could result in intestinal obstruction, loss of consciousness, kidney damage, cardiac failure and lead poisoning. Lead is a cumulative poison whose symptoms may not develop quickly. Increasing amounts can build up leading to decreased physical stamina, fatigue, sleep disturbance, headaches, aching bones and muscles, constipation, abdominal pains and decreased appetite. Signs of exposure are coughing, shortness of breath and chest pains, abdominal pains, loss of appetite and constipation. Lead is also a teratogen and prolonged and excessive exposure by either parent or the mother during pregnancy may increase the chances of birth defects or miscarriage.

Eyes: due to the abrasive materials in the product, it may irritate the eyes and mucus membranes. Symptoms include watering and irritation

Skin: absorption of the product is not deemed as a route of entry, mechanical abrasion may cause irritation to sensitive skin.

4. Emergency and First Aid Measures

Excessive Inhalation remove patient to fresh air or a well-ventilated area and resuscitate if required. Loosen clothing allow patient to rest. Seek medical attention if symptoms persist.

Ingestion. do not induce vomiting, product contains anti settling agents, dilute effects by drinking milk water seek medical advice if discomfort continues.

Eyes: wash with copious amounts of water, for at least 15 minutes. Including under the eyelids, if irritation continues seek medical advice.

Skin: remove any contaminated clothing. Wash infected areas promptly with soap or mild detergent
and water, and if irritation continues seek medical advice.

5. Fire-fighting Measures
Extinguishing Media: product is non-flammable. Use extinguishers suitable for surrounding areas, water, carbon dioxide, foam or dry chemical.

Special Fire-fighting Procedures: toxic fumes of lead may be given off during thermal decomposition. Wear self-contained apparatus with full protective clothing. Do not allow run off into drains or watercourses, contains lead which is an aquatic toxin.

Unusual Fire and Explosion Hazards: none, product does not constitute an explosion risk.

6. Accidental Release Measures
Leaks and Spills: if spillage is in the liquid state recover as much as possible for re-use, absorb the remaining up with absorbent towel or inert material (dry sand). Scoop up and place in a sealed container then dispose of in accordance with Local Authority Regulations. This product contains an toxic do not allow significant quantities into watercourses. Use soap or a mild detergent and to clean remaining spillage. The amount of the aquatic toxin after removal of the bulk of the spillage is not deemed hazardous as long as local effluent limitations are exceeded. gloves (EN 374) and apron (EN 467) should be worn during clean up, along with goggles or safety glasses. (EN 166)

if spillage is dry, wherever possible clean up using a vacuum with a high efficiency filter (HEPA) If not available dampen down with a gentle water mist or spray. Try not to produce dust. Then treat as if it was in the liquid state. Never Dry Sweep. When dealing with any dusty material wear personal protection as listed in section 8.

7. Handling and Storage.
Handling: product is recommended for painting. If sprayed use a spray booth fitted with Local Exhaust Ventilation (LEV). Wear personal protection as outlined in section 8. Clean up over spray or any spillage before product dries out. Inspect and maintain spray booth regularly. For mixing powdered onglaze with water or a media keep dust to a minimum and wear personal protection as outlined in section 8. Do not eat, drink or smoke where this material is used. Wash hands thoroughly after handling this product.

Storage: Keep in a sealed labeled container to stop dust formation, and in a cool dry well ventilated area.

8. Exposure Controls / Personal Protection.
Exposure Controls: in the liquid state there is little risk of Occupational Exposure Limits (OEL) being exceeded. However, if mixing powdered onglaze or if dust is present, adequate ventilation should be provided so that OEL are not exceeded. Local Exhaust Ventilation (LEV) is preferable to personal protection.

Personal Protection: for brush application an impervious apron to EN 467 should be worn for personal hygiene. dust or spray is present suitable approved respiratory protection for short term or low concentration should be worn to CEN Standard EN 143 along with splash goggles with side shields to EN 166 impervious gloves to EN 374 and an impervious apron to EN 468. should be kept on site when dealing with dusty materials.

Eyewash: Eye wash should be kept on site when dealing with dusty materials.

Component Chemical Name CAS EINECS Occupational Exposure Limits 8 Hr TWA

<table>
<thead>
<tr>
<th>Component</th>
<th>Chemical Name</th>
<th>CAS</th>
<th>EINECS</th>
<th>Total Respirable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead based Frit</td>
<td>lead borosilicate frit - chemical</td>
<td>65997-18-4</td>
<td>266-047-6</td>
<td>0.15mg/m³</td>
</tr>
<tr>
<td>Pigment red</td>
<td>zirconium iron coral spinel</td>
<td>68412-79-3</td>
<td>270-210-7</td>
<td>10mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4mg/m³</td>
</tr>
</tbody>
</table>

TWA = Time Weighted Average

Appearance: powder
Colour: salmon - pink
Odour: virtually odourless
PH: 6.5 - 7.5
Boiling Point - Powder: not applicable
Flammability: non - flammable
Upper Explosive Limit (UEL): not applicable
Lower Explosive Limit (LEL): not applicable
Solubility: virtually insoluble in water
Melting Point
in excess of 540 °C / 1000 °F

10. Stability and Reactivity

Stability
this product is stable under recommended storage conditions

Conditions to avoid
excessive temperatures may cause toxic fumes of lead to be released if heated to decomposition

Incompatibility (materials to avoid)
avoid contact with strong oxidizers and chemically active metals as violent reaction may occur

Hazardous Decomposition of By Products
none anticipated

Hazardous Polymerisation
will not occur

11. Toxicological Information

No specific results on this product

Lead frit of this type typically
LD_{50} Oral (rat)  > 2000 mg/kg

TCLo (human) 10mg/m³
(Gastrointestinal tract effect for lead)

Health Effects:
see section 3 Inhalation is the main route of entry, absorption takes place easily from the respiratory tract and symptoms tend to develop more quickly than through ingestion where most of it passes through the body unabsorbed, and is eliminated in the feces. The greater portion of the lead that is absorbed is caught by the liver and excreted, in part, in the bile. For this reason larger amounts of lead are necessary to have toxic effects by this route, and a longer period of exposures usually necessary to produce symptoms.

Carcinogenicity
not known: no quantitative information found.

Reproductive toxicity
product is lead based which classify it as a tetragon and continuous exposure may result in decreased fertility. Elevated lead exposure of either parent before pregnancy may chance of miscarriage or birth defects. Exposure of the mother during pregnancy may.

Mutagenicity
not known: no quantitative information found.

Radiation:
not considered to be a radiation risk but does contain some zirconium-based materials in small quantities that contains a very small amount of naturally occurring radioactive elements of the uranium and thorium series. The main radiological hazard is internal exposure to alpha particles from inhaled dust. As a guide continuous worker in zirconium who is exposure to dust levels 3.5g/m³ (total dust) could give rise to annual internal exposures above 1 mSv. External exposure is from Gamma radiation. Continuous exposure (2000 hours per year) within 2 m of bulk zircon could give rise to an annual external dose of above 1 mSv.

12. Ecological Information

No specific results on this product

Ecotoxicity:
product contains a lead based frit and lead is known to have both a short and long term ecological effect. Acute toxic effects to excessive concentrations may include death of some animals, birds, or fish and possible death or low growth rate in some plants. It also toxicity to aquatic life. Insufficient data is available to evaluate or predict the short-

has a high acute term effects of lifespan,

Mobility:
no quantitative information found. Based on individual results for individual components the Pow is expected to be low, so potential for mobility in soil is very slight if at all. This product is also virtually insoluble in cold water.

Persistence and degradability
no quantitative information found. Product contains a lead based extender and lead and its compounds are highly persistent in water, with a half-life greater than 200 days. All ingredients are also not readily degradable.

Bioaccumulative potential:
no quantitative information found, however it is anticipated that concentrations of lead and its compounds will be higher in fish than the average concentration of water they are taken from

13. Disposal of Product

Regulation.

Ensure that dry product is placed in a covered container to prevent dust. Do not put into drainage system. Some countries have, or are developing new regulations for disposal of waste containing Naturally Occurring Radioactive Materials (NORM) above background levels.
14. Transport Information

**Road:**
- U.N- Number: 3077
- Proper Shipping name: environmental hazardous substance, solid, N.O.S. (contains lead metal)
- Class: 9
- Packing Group: 3
- Remarks: shipping permitted
- ADR Primary Risk: 9
- ADR Hazard Number: 90

**Sea:**
- IMDG Class: shipping permitted
- Marine Pollutant: yes

**Rail:**
- RID Class Number: shipping permitted

**Air:**
- IATA and ICAO Class: shipping permitted

15. Regulatory Information

**EC Supply Labeling:**
Toxic T : N - Dangerous to the Environment

**Risk Phrases**
- R 61: May cause harm to the unborn child
- R 62: Possible risk of impaired fertility
- R 33: Danger of cumulative effects
- R 20/22: Harmful by inhalation and if swallowed
- R 50-53: Very toxic to aquatic organisms may cause Long-term adverse effects in the aquatic environment

**Safety Phrases**
- S -53: Avoid exposures - obtain special instruction before use
- S - 45: In case of accident or if you feel unwell seek medical advice immediately
- S - 61: Avoid release to the environment

**Statutory Instruments**
- Classification, Packaging and Labeling Regulation 1994
- The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002
- Environmental Protection Act 1990

**Guidance Notes**
- H.S.E. EH 40/2005 Occupational Exposure Limits 2005
- Control of Substances Hazardous to Health Regulations 2002 (as amended)
- PPE 2nd Edition 2002
- I.M.D.G 2002 Amendment 31
- Control of Lead at Work Act 2002
- The General Product Safety Regulations 2005
- Approved Code of Practice Classification and Labeling of Substances and Preparations Dangerous for Supply

16. Other Information

Do not eat, drink or smoke when using this product, do not breathe spray. This product can be hazardous in the dry state if misused and are therefore recommended for use by professional users only. Since the specific conditions of use of the product are outside the control of the supplier, the user is responsible for ensuring that the requirements of relevant legislation are complied with. The information within this safety data sheet is correct to the best of our knowledge at the date of publication. The information should not be regarded as legal advice or regulation. It is the responsibility of the user to comply with all Local Regulation governing the use of this product. The information applies only to the specified products designated and may not be valid for product if used in combination with any other product or processes. Contact the supplier regarding any questions relating to use of these products.