

1 Identification

GHS Product Identifier

TAN05SS

Other means of identification

5 MHz Quartz Monitor Crystals with Silver electrode and Chromium Adhesion Layer. Ulvac electrode pattern.

Recommended use of the chemical and restriction on use

Quartz Monitor Crystals are a solid, non-volatile, component used for measuring thin film evaporation in optical coating applications.

Supplier's details

Phillip Technologies, LLC
2003 Perimeter Road
Suite E
Greenville, South Carolina 29605-5276
USA

Emergency phone number

+1-864-244-1560

2 Hazard(s) identification

Classification of the substance or mixture

Quartz Monitor Crystals are **not hazardous** under OSHA Standard 29 CFR 1910.1200

GHS label elements

May be harmful if swallowed due to choking hazard

3 Composition/information on ingredients

| Description | CAS Number | EINECS Number | % | Note |
|--------------------------|------------|---------------|----|--|
| Silver metal (Ag) | 7440-22-4 | | 20 | Silver is a natural element that is non-toxic, and non-volatile. |
| Chromium metal (Cr) | 7440-47-3 | | 10 | Vacuum-deposited chromium transforms into inert and non-volatile Chromic Oxide, which is what these crystals are coated with |
| Silicon Dioxide (Quartz) | 14808-60-7 | | 70 | Quartz is pervasive in nature. Non-toxic, non-volatile. |

4 First-aid measures

Description of necessary first-aid measures

Call a doctor in the event of oral ingestion. Possible choking hazard may exist.

Most important symptoms/effects, acute and delayed

choking hazard due to oral ingestion. Possible upset stomach from ingestion.

Indication of immediate medical attention and special treatment needed, if necessary

Choking, difficulty breathing, or illness.

5 Fire-fighting measures

Suitable extinguishing media

Not Applicable

Specific hazards arising from the chemical

Not Applicable

Special protective actions for fire-fighters

Not Applicable

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Not Applicable

Environmental precautions

Not Applicable

Methods and materials for containment and cleaning up

Not Applicable. Product is solid, non-toxic, non-volatile, and non-flammable

7 Handling and storage

Precautions for safe handling

None.

Conditions for safe storage, including any incompatibilities

None

8 Exposure controls/personal protection

Control parameters

No PPE required for handling.

Appropriate engineering controls

No controlled procedures required for safe handling.

Individual protection measures

No PPE required for handling.

9 Physical and chemical properties

Physical and chemical properties

| | | | |
|-----------------------|--------------------------|-----------------------|--------------------------|
| Physical state | Solid | Odor | No Odor |
| Appearance | Silver and Metallic Grey | Odor Threshold | No information available |
| Color | | | |

| <u>Property</u> | <u>Values</u> | <u>Remarks Method</u> |
|---------------------------------------|-------------------|-----------------------|
| pH | no data available | None Known |
| Melting/Freezing Point | 1670°C | None Known |
| boiling Point/Boiling range | no data available | None Known |
| Flash Point | no data available | None Known |
| Evaporation Rate | no data available | None Known |
| Flammability (solid / gas) | no data available | None Known |
| Flammability Limit in Air | no data available | None Known |
| Upper Flammability Limit | no data available | None Known |
| Lower Flammability Limit | no data available | None Known |
| Vapor Pressure | no data available | None Known |
| Vapor Density | no data available | None Known |
| Specific Gravity | 60.08 | None Known |
| Water Solubility | Non-soluble | None Known |
| Solubility in other solvents | no data available | None Known |
| Partition coefficient: n-octanol/wate | no data available | None Known |
| Autoignition temperature | no data available | None Known |
| Decomposition temperature | no data available | None Known |
| Kinematic viscosity | no data available | None Known |
| Dynamic viscosity | no data available | None Known |
| Explosive properties | no data available | None Known |
| Oxidizing properties | no data available | None Known |

10 Stability and reactivity

Reactivity

None under normal processing

Chemical stability

Stable under all storage and usage conditions

Possibility of hazardous reactions

None under normal processing

Conditions to avoid

None

Incompatible materials

None

Hazardous decomposition products

None

11 Toxicological information

Toxicological (health) effects

None.

Numerical measures of toxicity (such as acute toxicity estimates)

Toxicological Data on Ingredients:

Ingredient

Quartz
Silver
Chromium

LD50

Not available
Not available
Not available

LC50

Not available
Not available
Not available

Interactive effects

None

Where specific chemical data are not available

None

Mixtures

None

Mixture versus ingredient information

None

Other information

None

Information on the likely routes of exposure

None

Symptoms related to the physical, chemical and toxicological characteristics

Potential Choking Hazard

Delayed and immediate effects and also chronic effects from short and long term exposure

None

12 Ecological information**Toxicity**

None

Persistence and degradability

None

Bioaccumulative potential

None

Mobility in soil

None

Other adverse effects

None

13 Disposal considerations**Disposal methods**

Bury in a secured landfill in accordance with all local, state and federal environmental regulations.
Empty containers may be incinerated or discarded as general trash.

14 Transport information

UN Number

Not available

UN Proper Shipping Name

Not available

Transport hazard class(es)

Not available

Environmental hazards

Not available

Special precautions for user

Not available

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

Not available

15 Regulatory information

Safety, health and environmental regulations specific for the product in question

CLEAN AIR ACT SECTION 611: Material neither contains nor is it manufactured with ozone depleting substances (ODS).

FEDERAL WATER POLLUTION CONTROL ACT (40 CFR 401.15): Material contains no intentionally added or detectable (contaminant) levels of EPA priority toxic pollutants.

CERCLA REPORTABLE QUANTITY: None

OSHA: Not hazardous under 29 CFR 1910.1200

RCRA: Not a hazardous material or a hazardous waste by listing or characteristic.

Extremely Hazardous Substances: None

Section 311/312, Hazardous Categories: Non-hazardous

Contains no VOCs.

16 Other information