OTTO CHEMIE PVT LTD

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-----ISO 9001: 2015-----

MATERIAL SAFETY DATA SHEET

| Identification 1.1GHS Product identifier Niobium pentoxide, 99% Code N 1648 |
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| 2.Hazard identification 2.1Classification of the substance or mixture Not classified. 2.2GHS label elements, including precautionary statements Pictogram(s) No symbol. Signal word No signal word. Hazard statement(s) none Precautionary statement(s) Prevention none Response none Storage none Disposal none 2.3Other hazards which do not result in classification none |
| 3.Composition/information on ingredients 3.1Substances |
| Chemical name common names and cAS EC number number concentration |
| Niobium pentaoxide Niobium pentaoxide 1313-96-8 none 100% |
| 4. First-aid measures 4. Description of necessary first-aid measures General advice Consult a physician. Show this safety data sheet to the doctor in attendance. If inhaled If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. In case of skin contact Wash off with soap and plenty of water. Consult a physician. In case of eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. If swallowed Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. 4.2Most important symptoms/effects, acute and delayed no data available 4.3Indication of immediate medical attention and special treatment needed, if necessary no data available |
| 5.Fire-fighting measures 5.1Extinguishing media Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. 5.2Specific hazards arising from the chemical no data available 5.3Special protective actions for fire-fighters Wear self-contained breathing apparatus for firefighting if necessary. |

Wear self-contained breathing apparatus for firefighting if necessary.

6.Accidental release measures

6.1Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3Methods and materials for containment and cleaning up Pick up and arrange disposal. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7.Handling and storage

7.1Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2. 7.2Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

8.Exposure controls/personal protection
8.1Control parameters
Occupational Exposure limit values
no data available
Biological limit values
no data available
8.2Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
8.3Individual protection measures, such as personal protective equipment (PPE)
Eve/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique(without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection Wear dust mask when handling large quantities. Thermal hazards

no data available

9. Physical and chemical properties Physical state off-white powder solid. Colour no data available no data available Odour Melting point/ freezing 1520\u00baC point Boiling point or initial no data available boiling point and boiling range Flammability no data available Lower and upper no data available explosion limit / flammability limit Flash point no data available Auto-ignition no data available temperature Decomposition no data available temperature pН no data available . Kinematic viscosity no data available Solubility no data available Partition coefficient n- no data available octanol/water (log value) Vapour pressure no data available Density and/or relative 4.47g/mLat 25\u00b0C(lit.) density Relative vapour no data available density Particle characteristics no data available 10.Stability and reactivity 10.1Reactivity no data available 10.2Chemical stability Stable under recommended storage conditions. 10.3Possibility of hazardous reactions

no data available 10.4Conditions to avoid no data available 10.5Incompatible materials no data available 10.6Hazardous decomposition products no data available

11. Toxicological information Acute toxicity Oral: no data available Inhalation: no data available Dermal: no data available Skin corrosion/irritation no data available Serious eye damage/irritation no data available Respiratory or skin sensitization no data available Germ cell mutagenicity no data available Carcinogenicity no data available Reproductive toxicity no data available STOT-single exposure no data available STOT-repeated exposure no data available Aspiration hazard no data available

12.Ecological information 12.1Toxicity Toxicity to fish: no data available Toxicity to daphnia and other aquatic invertebrates: no data available Toxicity to algae: no data available Toxicity to microorganisms: no data available 12.2Persistence and degradability no data available 12.3Bioaccumulative potential no data available 12.4Mobility in soil no data available 12.5Other adverse effects no data available

13.Disposal considerations 13.1Disposal methods Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems. Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14. Transport information 14.1UN Number ADR/RID: Not dangerous IMDG: Not dangerous IATA: Not dangerous goods. goods. goods. 14.2UN Proper Shipping Name ADR/RID: unknown IMDG: unknown IATA: unknown 14.3Transport hazard class(es) ADR/RID: Not dangerous IMDG: Not dangerous IATA: Not dangerous goods. goods. goods. 14.4Packing group, if applicable ADR/RID: Not dangerous IMDG: Not dangerous IATA: Not dangerous

 goods.
 goods.
 goods.

 14.5Environmental hazards
 IMDG: no
 IATA: no

 ADR/RID: no
 IMDG: no
 IATA: no

 14.6Special precautions for user
 no data available

 14.7Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code no data available

15.Regulatory information

15.1Safety, health and environmental regulations specific for the product in question

| Chemical name | Common names and | CAS number | EC number |
|---------------------------------------------------------------------------|------------------|------------|--------------|
| | synonyms | | |
| Niobium pentaoxide | | | none |
| European Inventory of Existing Commercial Chemical Substances (EINECS) | | | Listed. |
| EC Inventory | | | Listed. |
| United States Toxic Substances Control Act (TSCA) Inventory | | | Listed. |
| China Catalog of Hazardous chemicals 2015 | | | Not Listed. |
| New Zealand Inventory of Chemicals (NZIoC) | | | Listed. |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS) | | | Not Listed. |
| Vietnam National Chemical Inventory | | | Not Listed. |
| Chinese Chemical Inventory of Existing Chemical Substances (China IECSC) | | | Listed. |

Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.