

SAFETY DATA SHEET on Gallium nitride

Nippon Rare Metal, Inc.

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

-1 Product Identifier

CAS No. 25617-97-4

-2 Relevant identified uses of substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

-3 Details of Supplier of the Safety Data Sheet

Manufacturer and Supplier

Nippon Rare Metal, Inc.

Address: 2-15-1, Nakayama, Midori-ku, Yokohama 226-0019, Japan

-4 Emergency call:

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Section 2: Hazards Identification

-1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008

Skin irritation: Category 1

For the full text of the H-Statements mentioned in this Section, see Section 16.

-2 Label element



Signal Word: Warning

Hazard statement(s)

H317 : Causes skin irritation

Precautionary statement(s)

P280 : Wear protective gloves

-3 Supplemental hazards : none

-4 Other hazards : none

Section 3: Composition/Information on ingredients

-1 Substances

CAS No : 25617-97-4

Chemical formula : GaN

EC No : 247-129-0

Concentration : Ga 83%

Section 4: First Aid measures

-1 Description of first aid measures

- Eye : Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- Skin : Wash off with soap and plenty of water. Consult a physician.
- Inhalation : If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
- Swallowed : Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

-2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

-3 Indication of any immediate medical attention and special treatment needed

No date available

Section 5: Fire fighting measures

-1 Extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

-2 Special hazards arising from the substances or mixture

nitrogen oxides (NO_x), gallium oxide

-3 Advice for firefighter

Wear self contained breathing apparatus for fire fighting if necessary.

-4 Further information

No date available

Section 6: Accidental Release Measures

-1 Personal precautions, protective equipment and emergency procedures

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

Evacuate personnel to safe areas.

For personal protection see section 8.

-2 Environmental precautions.

Do not let product enter drains.

-3 Methods and material for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

-4 Reference to other sections

For disposal see section 13.

Section 7: Handling and Storage

-1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition – No smoking. Keep away from heat and sources of ignition.

For precautions see section 2.2.

-2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

-3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

Section 8: Exposure controls/personal protection

-1 Control parameters

Components with workplace control parameters.

-2 Exposure control

Engineering Controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protection:

Eyes : Chemical safety glasses/goggles.

Respirator : Where risk assessment shows air-purifying respirators are appropriate use a full-face Respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a back up to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Skin : 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 Regulation(EU) 2016/425/ and the standard EN 374 derived from it.

Practices : Good personnel hygiene is essential. Avoid eating, smoking or drinking in the work area. Wash hands thoroughly with soap and water immediately upon leaving the work area.

Section 9: Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance and Odor: powder

Solubility in Water: not applicable

Melting Point: 800°C

Boiling Point: not applicable

Specific Gravity: not applicable

Flammability: not applicable

Vapor Pressure: not applicable

Vapor Density: 6.1g/cc

Decomposition temp: not applicable

Formule Weight: 83.7297g/mol

Section 10: Stability and Reactivity

-1 Reactivity: no data available

-2 Chemical stability: Stable under recommended storage conditions.

-3 Possibility of hazardous reactions : no data available

-4 Conditions to avoid: no data available

-5 Incompatible materials: no data available

-6 Hazardous Decomposition: In the event of fire: see section 5

Section 11: Toxicological Information

Information on toxicological effects

Acute toxicity : no data available

Skin corrosion/irritation : no data available

Serious eye damage/eye irritation : no data available

Respiratory or skin sensitization : no data available

Germ cell mutagenicity : no data available

Carcinogenicity : no data available

Section 12: Ecological Information

Toxicity : no data available

Persistence and degradability : no data available

Bioaccumulative potential : no data available

Mobility in soil : no data available

Results of PBT and vPvB assessment : PBT/vPvB assessment not available as chemical safety Assessment not required/not conducted.

Other adverse effects : no data available

Section 13: Disposal Considerations

Waste treatment Method

Product : Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging : Dispose of as unused product.

Section 14: Transport information

UN-No: None

Proper Shipping Name : Not dangerous goods

Proper technical name : Gallium (III) nitride

Hazard Class: None

Packing Group : None

Section 15: Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

-1 Safety, health and environmental regulations/legislation specific for the substance or mixture :

No data available

-2 Chemical safety assessment:

For this product a chemical safety assessment was not carried out.

Section 16. Additional Information

Full text of H-Statements referred to under section 2 and 3.

Eye Irrit : Eye irritation.

H272 : May intensify fire; oxidizer.

H315 : Causes skin irritation.

H319 : Causes serious eye irritation.

H335 : May cause respiratory irritation.

Ox. Sol. : Oxidizing solids

STOT SE : Specific target organ toxicity – single exposure

Full text of R-phrases referred to under section 2 and 3.

O : Oxidising

R8 : Contact with combustible material may cause fire.

R36/37/38 : Irritating to eyes, respiratory system and skin.

Xi : Irritant

Abbreviations :

CAS number: The Chemical Abstracts Service number

EINECS: The European Inventory of Existing Commercial Chemical Substance

NTP: National Toxicity Program IARC: UN International Agency for Research on Cancer

OSHA: US Occupational Safety & Health Administration NIOSH : The National Agency for

Occupational Safety and Health

EU: European Union

Key Literature references and Source of data

MSDS Europe website (<http://www.msds-europe.com/>)

Guidance on the compilation of safety data sheets - Version 2.1 February 2014 by ECHA (European Chemical Agency)

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