

## 1. Identification of the substance / mixture and of the company / undertaking

### 1.1 Product identifier

Product name: Gallium  
CAS-No.: 7440-55-3  
EC-No.: 231-163-8

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified use: Laboratory chemical

### 1.3 Details of the supplier of the safety data sheet

Company: NETZSCH-Gerätebau GmbH  
Wittelsbacherstraße 42  
95100 Selb / Germany

Customer service Phone: +49 9287 881-555

### 1.4 Emergency Phone: +49 9287 881-174 (during office hours)

Fax: +49 9287 881-505

E-mail Address: service@ngb.netzsch.com

## 2. Hazards identification

### 2.1 Classification of the substance or mixture

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

Met. Corr. 1 H290 May be corrosive to metals.  
Skin Corr. 1B H314 Causes severe skin burns and eye damage.

### 2.2 Label elements

#### Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

Hazard  
pictograms:



Signalword: Danger

Hazard statements: H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.

Precautionary statements: P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P234 Keep only in original container.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P301+P330+P331 IF SWALLOWED: rinse mouth.  
Do NOT induce vomiting.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.

Additional information:

### 2.3 Other hazards

All chemicals are potentially dangerous. Therefore they are to be handled exclusively by specially trained personnel and with the necessary care.  
Gallium has a low melting point (29,8°C). Especially melted Gallium has to be handled with appropriate care.

#### Results of PBT- und vPvB assessment

PBT: Not applicable.  
vPvB: Not applicable.

## 3. Composition / information on ingredients

### 3.1 Chemical characterization:

#### Substances

CAS-No. Description: 7440-55-3 Gallium

#### Identification number(s):

EC number: 231-163-8

Formula: Ga

Molar mass [g/mol]: 69.72

## 4. First aid measures

### 4.1 Description of first aid measures

General information:	First-aider: always ensure self-protection. Immediately remove contaminated clothes. In general it is not recommendable for any layperson to induce vomiting.
After inhalation:	Ensure ample supply of fresh air and consult a physician for safety reasons.
After skin contact:	Immediately wash off with water. In case of persisting skin irritation consult a physician.
After eye contact:	Keep eye with both hands wide open and rinse for at least 15 minutes under running water. Immediately consult an eye specialist.
After swallowing:	Rinse mouth and (let) drink a glass of water. Do NOT induce vomiting. Immediately seek medical advice and show packaging or label.

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

No further relevant information available.

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

No further relevant information available.

## 5. Fire-Fighting measures

### 5.1 Extinguishing agents

Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions. Water spray, alcohol-resistant foam, dry chemicals or carbon dioxide.

For safety reasons unsuitable extinguishing agents: Full jet of water.

### 5.2 Special hazards arising from the substance or mixture

No further relevant information available.

**In case of fire, the following can be released:**

### 5.3 Advice for firefighters

Protective equipment: In case of fire wear self-contained respiratory apparatus and full protective suit.

Additional information: Dispose fire debris and contaminated fire fighting water in accordance with official regulations.  
Prevent fire-fighting water from entering surface water or ground water.

## 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment. Keep unprotected persons at distance.  
Ensure sufficient ventilation. Avoid dust formation. Do not inhale dust or steam.

### 6.2 Environmental precautions

Avoid entrance into underground/ soil. Do not allow to enter sewers, surface water or ground water.

### 6.3 Methods and material for containment and cleaning up

Pick up mechanically.  
Dispose contaminated material as described in Section 13. Ensure sufficient ventilation.

### 6.4 Reference to other sections

Information for safe handling is available in Section 7.  
Information concerning personal protective equipment can be read through in Section 8.  
Appropriate disposal is described in Section 13.

## 7. Handling and storage

### 7.1 Precautions for safe handling

Ensure appropriate ventilation / exhaust at the workplace. Avoid dust formation. Keep containers, equipment and working place clean. Handling according to the national/ regional guidelines for laboratories.

#### Information about fire and explosion protection:

No special measures required.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for safe storage,  
including any incompatibilities:      Store solely in the original container.  
Inappropriate container material: aluminium.

Information about storage in one  
common storage facility:              Store away from foodstuffs.

Further information about  
storage conditions:                      Store in a cool area.  
Keep the container tightly closed.  
Store in a dry area.

Recommended storage  
temperature:                              Store in the fridge at a temperature between +2°C and 10°C.

### 7.3 Specific end use(s)

No further relevant information available.

## 8. Exposure controls / personal protection

Additional information about design of technical facilities: No additional data; refer to Section 7.

### 8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace: Limit values are to be observed according to national/ regional regulations.

Additional information:

### 8.2 Exposure controls

#### Personal protective equipment:

General protective and hygienic measures: No eating, drinking, smoking and snuffing at the workplace.  
Keep at distance to foodstuff, beverages or animal feed.  
Remove soiled or soaked clothes.  
Wash hands before breaks and at the end of work.  
Avoid eye or skin contact.  
Do not inhale dust.

Individual protection measures: Body protection is to be selected depending on the concentration and quantity of hazardous substances on the individual workplace. The chemical resistance of body protection has to be clarified with the supplier.

Respiratory protection: Necessary in case of dust formation.

Protection of hands: Protection gloves: The material has to be impermeable and resistant against the substance itself. When selecting the glove material pay attention to breakthrough time, permeation rate and degradation.  
Selected protection gloves must satisfy all specifications of EU directives 89/686/EEC and the resulting norm EN374.  
Material: nitrile rubber.

Eye protection: Tightly sealed goggles.

Body protection: Protective work clothing.

## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### General Information

<u>Appearance</u> Form: Colour:	Solid Metallic
Odour:	Odourless
Odour threshold:	Not defined.
pH-value:	Not applicable.
<u>Change in condition</u> Melting point / Melting range: Boiling point / Boiling range:	29.8°C 2204°C
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not flammable.
Ignition temperature:	No data available.
Decomposition temperature:	Not defined.
Self-igniting:	Not defined.
Danger of explosion:	No danger of explosion.
<u>Explosion limits</u> Lower: Upper:	Not defined. Not defined.
Oxidizing properties:	No data available.
Vapour pressure:	Not applicable.
Density at 20°C:	5.904 g/cm <sup>3</sup>
Relative density:	Not defined.
Vapour density:	Not defined.
Evaporation rate:	Not applicable.
Solubility in / Miscibility with water:	Not applicable.
Partition coefficient (n-octanol / water):	Not defined.
<u>Viscosity</u> Dynamic: Kinematic:	Not applicable. Not applicable.

#### 9.2 Other information

No further relevant information available.

## 10. Stability and reactivity

### 10.1 Reactivity

No further relevant information available.

### 10.2 Chemical stability

#### Thermal decomposition / conditions to be avoided:

Moisture

### 10.3 Possibility of hazardous reactions

The substance can react dangerously with aluminium alloy, hydrogen chloride, halogen, alkaline, corroded aluminium. Danger of explosion when in contact with hydrogen peroxide/ hydrochloric acid.

### 10.4 Conditions to avoid

No further relevant information available.

### 10.5 Incompatible materials

Strong oxidants, strong alkalines, strong acids, halogens, metals.

### 10.6 Hazardous decomposition products

Toxic metal oxide smoke.

## 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD / LC50 values relevant for classification:

There is no quantitative data regarding toxicity of the product available.

#### Potential health effects

Skin:	Caustic effect on skin and mucous membranes.
Eyes:	Strong caustic effect.
Inhalation:	Burns of mucous membranes, coughing, shortness of breath, pulmonary oedema, tissue damages or pneumonia.
Ingestion	Strong caustic effects on oral cavity and throat, perforation of esophagnus and stomach.
Sensitization:	No sensitizing effects are known.

#### CMR effects

Germ cell mutagenicity:	People, lymphocytes, DNA inhibition
Carcinogenicity:	
Reproductive toxicity:	No data available.

#### Aspiration hazard:

No data available.

#### Specific target organ toxicity – single exposure:

No further relevant information available.

#### Specific target organ toxicity – repeated exposure:

No further relevant information available.

**Additional toxicological information:**

No further relevant information available.

**Further information:**

The product should be handled with the usual care as necessary for chemicals.

**12. Ecological information****12.1 Toxicity****Aquatic toxicity**

There is no quantitative data regarding aquatic toxicity of the product available.

**12.2 Persistence and degradability**

Persistence: No further relevant information available.

Degradability: No further relevant information available.

**12.3 Bioaccumulative potential**

No further relevant information available.

**12.4 Mobility in soil**

No further relevant information available.

**Ecotoxicological effects**

Remark: Do not allow to enter waters, waste water, or soil. Harmful to aquatic organisms. Can cause detrimental long-term effects in waters!

**12.5 Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

**12.6 Other adverse effects**

No further relevant information available.

**13. Disposal considerations****13.1 Waste treatment methods**




Recommendation: Dispose of residual amounts and non-reusable solutions in accordance with local legal regulations. Waste codes are to be assigned by the operator according to the respective application of the product.

**Uncleaned packaging**

Recommendation: Disposal same as for unused product.



## 14. Transport information

	ADR	IMDG	IATA
<b>14.1 UN-Number</b>	UN2803	UN2803	UN2803
<b>14.2 UN proper shipping name</b>	2803 GALLIUM	GALLIUM	GALLIUM
<b>14.3 Transport hazard class(es) / -label</b>			
<b>14.4 Packing group:</b>	III	III	III
Transport hazard class(es):	8 Corrosive substances	8 Corrosive substances	8 Corrosive substances
Label:	8	8	8
Danger symbol:			
<b>14.5 Environmental hazards:</b>	No	No	No

### 14.6 Special precautions for user

Attention: corrosive substances

### 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

## 15. Regulatory information

### 15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture

#### National regulations:

Information about limitation of use: Legal provisions such as Chemicals Act, Maternity Protection Act, Young Persons Employment Act or Home Work Act are to be observed!

Waterhazard class: WHC 3, strongly water-polluting, self-classification.

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

## 16. Other Information

### Guarantee

This information has been compiled to the best of our knowledge; however, we make no claim as to its completeness and it is meant to serve only as a guideline. NETZSCH-Gerätebau GmbH disclaims any liability for damages which may occur in handling or in contact with these chemicals.

### Disclaimer

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