

# Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Gallium 99,9999 %

article number: **3761**  
Version: **GHS 1.1 en**  
Replaces version of: 2016-03-01  
Version: (GHS 1)

date of compilation: 2016-03-01  
Revision: 2021-03-30

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Identification of the substance **Gallium 99,9999 %**  
Article number 3761  
CAS number 7440-55-3

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

Relevant identified uses: Laboratory chemical  
Laboratory and analytical use  
Uses advised against: Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

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

Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0  
**Telefax:** +49 (0) 721 - 56 06 149  
**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)  
**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification acc. to GHS

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
2.16	Substance or mixture corrosive to metals	1	Met. Corr. 1	H290
3.10	Acute toxicity (oral)	4	Acute Tox. 4	H302

For full text of abbreviations: see SECTION 16

### 2.2 Label elements

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## Labelling

### Signal word

**Warning**

### Pictograms

GHS05, GHS07



### Hazard statements

H290 May be corrosive to metals  
H302 Harmful if swallowed

### Precautionary statements

#### Precautionary statements - prevention

P234 Keep only in original container  
P264 Wash thoroughly after handling  
P270 Do not eat, drink or smoke when using this product

#### Precautionary statements - response

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
P330 Rinse mouth  
P390 Absorb spillage to prevent material damage

#### Precautionary statements - disposal

P501 Dispose of contents/container to industrial combustion plant

## 2.3 Other hazards

### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	Gallium
Molecular formula	Ga
Molar mass	69.72 g/mol
CAS No	7440-55-3

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

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Take off contaminated clothing.

### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

### Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

### Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

### Following ingestion

Rinse mouth with water (only if the person is conscious). Call a doctor.

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

Headache, Cough, Vomiting, Nausea, Dyspnoea

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

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings  
water, foam, dry extinguishing powder, ABC-powder

#### Unsuitable extinguishing media

water jet

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

Non-combustible.

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

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



#### For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe dust.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

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## 6.3 Methods and material for containment and cleaning up

### Advice on how to contain a spill

Covering of drains. Take up mechanically.

### Advice on how to clean up a spill

Take up mechanically. Control of dust.

### Other information relating to spills and releases

Place in appropriate containers for disposal.

## 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid dust formation.

### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

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

Store in a dry place. Keep only in original container.

### Incompatible substances or mixtures

Observe hints for combined storage.

### Consideration of other advice

### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

#### Occupational exposure limit values (Workplace Exposure Limits)

Data are not available.

### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

#### Eye/face protection



Use safety goggle with side protection.

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### Skin protection



#### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

#### • type of material

NBR (Nitrile rubber)

#### • material thickness

>0,11 mm

#### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

#### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

### Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	solid
Form	-
Colour	metallic
Odour	odourless
Melting point/freezing point	29.8 °C
Boiling point or initial boiling point and boiling range	2,400 °C
Flammability	non-combustible
Lower and upper explosion limit	not determined

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Flash point	not applicable
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	not applicable
Kinematic viscosity	not relevant
<u>Solubility(ies)</u>	
Water solubility	(insoluble (< 1 mg/l))
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	not relevant (inorganic)
Vapour pressure	not determined
Density	5.91 g/cm <sup>3</sup> at 20 °C
Particle characteristics	No data available.
<u>Other safety parameters</u>	
Oxidising properties	none

### 9.2 Other information

Information with regard to physical hazard classes:

Corrosive to metals	category 1: corrosive to metals
Other safety characteristics:	There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

It's a reactive substance. Substance or mixture corrosive to metals.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

**Violent reaction with:** Bases, Hydrogen peroxide, Hydrochloric acid

### 10.4 Conditions to avoid

Humidity.

### 10.5 Incompatible materials

aluminium, different metals

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## 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Classification acc. to GHS

##### Acute toxicity

Harmful if swallowed.

##### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

##### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

##### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

##### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

##### Carcinogenicity

Shall not be classified as carcinogenic.

##### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

##### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

##### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

##### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

#### Symptoms related to the physical, chemical and toxicological characteristics

##### • If swallowed

vomiting, nausea

##### • If in eyes

Data are not available.

##### • If inhaled

cough, headache, Dyspnoea

##### • If on skin

Data are not available.

##### • Other information

none

### 11.2 Endocrine disrupting properties

Not listed.

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## SECTION 12: Ecological information

### 12.1 Toxicity

Harmful to aquatic life with long lasting effects.

Aquatic toxicity (acute)			
Endpoint	Value	Species	Exposure time
EC50	87.03 mg/l	aquatic invertebrates	48 h
ErC50	58.58 mg/l	algae	72 h

### Biodegradation

The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.2 Process of degradability

Data are not available.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Endocrine disrupting properties

Not listed.

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packagings

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

#### Relevant provisions relating to waste(Basel Convention)

#### Properties of waste which render it hazardous

H8 Corrosives

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national



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waste management facilities. Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

### 14.1 UN number

<b>UN RTDG</b>	UN 2803
IMDG-Code	UN 2803
ICAO-TI	UN 2803

### 14.2 UN proper shipping name

<b>UN RTDG</b>	GALLIUM
IMDG-Code	GALLIUM
ICAO-TI	Gallium

### 14.3 Transport hazard class(es)

<b>UN RTDG</b>	8
IMDG-Code	8
ICAO-TI	8

### 14.4 Packing group

<b>UN RTDG</b>	III
IMDG-Code	III
ICAO-TI	III

### 14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

### 14.6 Special precautions for user

There is no additional information.

### 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.

### 14.8 Information for each of the UN Model Regulations

#### Transport information National regulations Additional information(UN RTDG)

<b>UN number</b>	2803
<b>Proper shipping name</b>	GALLIUM
<b>Class</b>	8
<b>Packing group</b>	III
<b>Danger label(s)</b>	8



<b>Special provisions (SP)</b>	- UN RTDG
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**Excepted quantities (EQ)** E0  
UN RTDG

**Limited quantities (LQ)** 5 kg  
UN RTDG

### International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant -

Danger label(s) 8



Special provisions (SP) -

Excepted quantities (EQ) E0

Limited quantities (LQ) 5 kg

EmS F-A, S-B

Stowage category B

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Danger label(s) 8



Special provisions (SP) A69

Excepted quantities (EQ) E0

## SECTION 15: Regulatory information

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

There is no additional information.

#### National regulations(Australia)

##### Australian Inventory of Chemical Substances(AICS)

Substance is listed.

#### National inventories

Country	Inventory	Status
AU	AICS	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed

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Country	Inventory	Status
TW	TCSI	substance is listed
US	TSCA	substance is listed

### Legend

AICS	Australian Inventory of Chemical Substances
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

## 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

Alignment to regulation: Globally Harmonized System of Classification and Labelling of Chemicals ("Purple book").

Restructuring: section 9, section 14

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic

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Abbr.	Descriptions of used abbreviations
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H290	May be corrosive to metals.
H302	Harmful if swallowed.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.