

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Identifier:** Gallium Phosphide Nanoparticle Dispersion

**Product Code:** GA-P-01-NPD

**CAS Number:** 12063-98-8

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
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Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

Classification according to Regulation (EC) No 1272/2008

Eye irritation (Category 2) H319

Specific target organ toxicity - single exposure (Category 3) H335

Flammable liquids (Category 3) H226

Acute toxicity, Oral (Category 4) H302

Acute toxicity, Inhalation (Category 4) H332

Acute toxicity, Dermal (Category 4) H312

Skin irritation (Category 2) H315

Eye irritation (Category 2) H319

Skin sensitisation (Category 1) H317

Chronic aquatic toxicity (Category 3) H412

Labeling according Regulation (EC) No 1272/2008

Pictogram:



Hazard statement(s):

H226 Flammable liquid and vapor.

H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H412 Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P261 Avoid breathing vapors.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements: none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Formula: GaP and C<sub>7</sub>H<sub>12</sub>O<sub>2</sub>

Molecular weight: 100,70 g/mol and 128,17 g/mol

CAS-No.: 12063-98-8 and 141-32-2

EC-No. 235-057-2 and 205-480-7

Hazardous ingredients according to Regulation (EC) No 1272/2008

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### **SECTION 4. 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

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

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### **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media

Suitable extinguishing media

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

Special hazards arising from the substance or mixture

Carbon oxides

Advice for firefighters

Wear self-contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

For personal protection see section 8.

Environmental precautions

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

Methods and materials 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).

Reference to other sections

For disposal see section 13.

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## **SECTION 7. HANDLING AND STORAGE**

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 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.

Light sensitive.

Storage class (TRGS 510): Flammable liquids

Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Control parameters

Components with workplace control parameters

Exposure controls

Appropriate engineering controls

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

Personal protective equipment

Eye/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

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.

#### Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory protection

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 backup 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).

#### Control of environmental exposure

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

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

- a) Appearance Form: liquid Color: yellowish
- b) Odor No data available
- c) Odor Threshold No data available
- d) pH No data available
- e) Melting point/freezing point No data available
- f) Initial boiling point and boiling range 145 °C - lit.
- g) Flash point 36 °C - closed cup
- h) Evaporation rate No data available
- i) Flammability (solid, gas) No data available
- j) Upper/lower flammability or explosive limits Upper explosion limit: 9,9 %(V)  
Lower explosion limit: 1,3 %(V)
- k) Vapor pressure 4,4 hPa at 20 °C
- l) Vapor density 4,43 - (Air = 1.0)
- m) Relative density No data available
- n) Water solubility No data available
- o) Partition coefficient: n- octanol/water No data available
- p) Auto-ignition temperature No data available
- q) Decomposition temperature No data available
- r) Viscosity No data available
- s) Explosive properties No data available
- t) Oxidizing properties No data available

Other safety information

No data available

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## SECTION 10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available  
Conditions to avoid  
Heat, flames and sparks.  
Incompatible materials  
Strong acids, Strong oxidizing agents, Strong bases  
If dried: Forms shock-sensitive mixtures with certain other materials., Oxidizing agents, Chlorine, Oxygen, Sulphur compounds  
Hazardous decomposition products  
Hazardous decomposition products formed under fire conditions. - Oxides of phosphorus, gallium oxides  
Other decomposition products - No data available  
In the event of fire: see section 5

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## SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

LD50 Oral - Rat - 900 mg/kg

LC50 Inhalation - Rat - 4 h - 2730 ppm

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Olfaction:Other changes.

Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Other. Lungs, Thorax, or Respiration:Dyspnea.

LD50 Dermal - Rabbit - 1.796 mg/kg

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

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Butyl acrylate)

Reproductive toxicity

Reproductive toxicity - Rat - Inhalation

Maternal Effects: Other effects. Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Reproductive toxicity - Rat - Inhalation

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

Additional Information

RTECS: LW9675000 (GaP) and RTECS: UD3150000 (Butyl acrylate)

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## SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish:

flow-through test LC50 - *Cyprinodon variegatus* (sheepshead minnow) - 2,1 mg/l -96h (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates:

static test EC50 - *Daphnia magna* (Water flea) - 1,3 mg/l - 48 h (OECD Test Guideline 202)

Persistence and degradability:

Biodegradability aerobic - Exposure time 28 d - Result: 80 - 90 % - Readily biodegradable.  
(OECD Test Guideline 310)

Bio-accumulative potential

No data available

Mobility in soil:

No data available

Results of PBT and vPvB assessment:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects

Toxic to aquatic life. Avoid release to the environment.

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

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## **SECTION 14. TRANSPORT INFORMATION**

UN-number

ADR/RID: 2348 IMDG: 2348 IATA: 2348

UN proper shipping name

ADR/RID: BUTYL ACRYLATES, STABILIZED

IMDG: BUTYL ACRYLATES, STABILIZED

IATA: BUTYL ACRYLATES, STABILIZED

Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

Packaging group

ADR/RID: III IMDG: III IATA: III

Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

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## **SECTION 15. REGULATORY INFORMATION**

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

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

No data available

Chemical Safety Assessment

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

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## **16. OTHER INFORMATION**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is

believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.