

# Safety Data Sheet

Trade name: CryoMAX Cryogenics Getter

Part #: POW-CR

Version: NF9002-001 EU / EN

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Revision date: 5/14/2026

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

<b>Trade Name / Designation:</b>	CryoMAX
<b>Product Type:</b>	Proprietary Mixture of Metal Oxides
<b>Product Usage:</b>	Hydrogen Getter for use in Cryogenics
<b>Uses advised against:</b>	N/A
<b>CAS Number/s:</b>	1317-38-0, 7440-05-3
<b>Manufacturer: NanoFEA, LLC</b>	NanoFEA, LLC 4245 N Central Expressway, #490 Dallas, TX 75205 USA
<b>Emergency Telephone Number:</b>	+1-719-966-4296 (Hours 8am to 5pm, US Mountain Time)
<b>Uses advised against: N/A.</b>	

## SECTION 2: Hazards identification

### Core Hazard Statements:

<ul style="list-style-type: none"><li>● H302: Harmful if swallowed.</li></ul>	<ul style="list-style-type: none"><li>● H332: Harmful if inhaled.</li></ul>
<ul style="list-style-type: none"><li>● H319/H315: Causes serious eye irritation/skin irritation.</li></ul>	<ul style="list-style-type: none"><li>● H335: May cause respiratory irritation (often for dust).</li></ul>
<ul style="list-style-type: none"><li>● Precautionary Statements</li></ul>	<ul style="list-style-type: none"><li>● P273: Avoid release to the environment.</li></ul>
<ul style="list-style-type: none"><li>● P261: Avoid breathing dust/fume/gas/mist/vapors/spray.</li></ul>	<ul style="list-style-type: none"><li>● P280: Wear protective gloves/eye protection/face protection.</li></ul>
<ul style="list-style-type: none"><li>● P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.</li></ul>	<ul style="list-style-type: none"><li>● H410/H400: Very toxic to aquatic life with long-lasting effects.</li></ul>

## SECTION 3. Composition/information on ingredients

<b>Chemical name</b>	Copper Oxide
<b>% by weight</b>	80-100 wt%
<b>CAS Number</b>	1317-38-0
<b>Chemical Name</b>	PGM Group Catalyst
<b>% by weight</b>	<1 wt%
<b>CAS Number</b>	7440-05-3
There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence requires reporting in this section.	

## SECTION 4: First aid measures

<b>Eye Contact</b>
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Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation-occurs. -

## Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Skin Contact

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

## Ingestion

Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Notes To Physician

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## Specific treatments

No specific treatment.

## Protection of first aid personnel

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

## SECTION 5: Firefighting measures

### Extinguishing media

Standard firefighting media.

### Hazardous thermal decomposition products

None known.

### Special protective actions for firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Use water spray to keep fire-exposed containers cool.

### Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

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## Extinguishing media

### Suitable extinguishing media

Use dry chemical, CO<sub>2</sub>, alcohol-resistant foam or water spray (fog)

### Unsuitable extinguishing media

water jet

## SECTION 6: Accidental release measures

### **Personal precautions, protective equipment and emergency procedures for non-emergency personnel**

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

### **For emergency responders**

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### **Environmental precautions**

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### **Methods and material for containment and cleaning a spill.**

The material is a powder. Wearing appropriate PPE gather spilled material and place in an appropriate waste disposal container. Dispose according to local regulations.

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

Lab coat, dust masks and gloves are recommended when handling the product.

## SECTION 7: Handling and storage Precautions for safe handling

### **Protective measures**

Put on appropriate personal protective equipment (see section 8 of SDS). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Keep in the original container or an approved alternative made from a compatible material, kept lightly closed when not in use. Empty containers retain product residue and can be hazardous.

### **Advice on general occupational hygiene**

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10 of SDS) and food and drink. Store locked up. Keep

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container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination

## Conditions for safe storage, including any incompatibilities

Store in original container protected from direct sunlight in a dry, cool and well ventilated area, away from incompatible materials (see section 10 of SDS) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination

## SECTION 8: Exposure controls/personal protection

### Ingredient name

Copper Oxide, CAS #1317-38-0

### Recommended Exposure limits (REL)

OSHA PEL 0.1 mg/m<sup>3</sup> as an 8-hour time-weighted average (TWA)

### Ingredient Name

PGM Group Catalyst

### Recommended Exposure limits (REL)

No specific OSHA/PEL or ACGIH/TLV established for palladium compounds.

### Appropriate engineering control

If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures and Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory. end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

### Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

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## Skin protection / Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

## Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product

## Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## Respiratory protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## SECTION 9: Physical and chemical properties

**Appearance:** black powder

**Physical state:** fine powder

**Color:** dark grey to black

**Odor:** none

**Odor threshold:** N/E

**pH:** N/A

**Melting point:** N/A

**Boiling point:** >1800C

**Flash point:** N/A

**Burning time:** N/E

**Burning rate:** N/E

**Evaporation rate:** nil

**Lower and upper explosive (flammable) limits:** N/A

**Vapor pressure:** N/A

**Vapor density:** N/A

**Relative density:** ≈6 g/cc

## SECTION 10: Stability and Reactivity

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**Reactivity:** Stable under normal conditions.

**Chemical stability:** The product is stable.

**Possibility of hazardous reactions:** Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid:** No specific data.

**Incompatible materials:** No specific data.

**Hazardous decomposition products** Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Other information**

No other information available.

## Section 11 – Toxicological information

Chronic Toxicity: Not tested for mutagenicity in the Ames test. No other applicable information has been found.

Acute Toxicity:

Oral: No applicable data have been found

Eye: Possible mild irritant

Skin: Possible mild irritant

Absorption: No applicable data have been found

Inhalation: No applicable data have been found. Powders can form nuisance dusts

Signs and Symptoms of Overexposure:

Eye: Possible mild irritation

Skin: Possible mild irritation

Absorption: None expected

Ingestion: None expected

Inhalation: Possible mild irritation

## Section 12 – Ecological information

Marine Pollutant under transportation regulations (IMDG code UN 3077). Per Ecostar, "... It has been deemed by the UN experts (representatives of countries and official industry bodies who decide on the regulations) that below 5 L for liquids (UN 3082) or 5 kg for solids (UN 3077) per inner packaging or per package, that the risk associated to the environment is decreased significantly enough to allow these goods to be transported without being marked, labelled or declared as dangerous goods." Reference on request.

## Section 13 – Disposal considerations

Waste disposal must be carried out in accordance with applicable federal, state, and local regulations in Canada, Australia, EU member states, and Japan. Use only appropriate containers for disposal and do not discharge any waste into the water supply.

## Section 14 – Transport information

Marine Pollutant under transportation regulations (IMDG code UN 3077). Reference section 12 of this document.

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## Section 15 – Regulatory information

Copper(II) oxide (CAS 1317-38-0) is not listed as an Extremely Hazardous Substance (EHS) under SARA Section 302, meaning it has no specific Threshold Planning Quantity (TPQ) for emergency planning. However, it is reportable under SARA Section 313 (Toxic Release Inventory) and subject to threshold planning amounts for Tier II inventory reporting.

SARA Section 313 (Toxic Release Inventory): The reporting threshold is typically 10,000 pounds for "otherwise used" or 25,000 pounds for manufactured/processed, as it falls under the "copper compounds" category.

## Section 16 – Other information

This Safety Data Sheet is a controlled document in the NanoFEA, LLC quality and manufacturing system. The document number is NF9002-001. The current revision number is 1.0, dated May 14, 2026.

The information contained in this Safety Data Sheet relates only to the specific materials designated herein and does not relate to their use in combination with any other materials or in any process. The information herein is based on technical data that NanoFEA, LLC believes to be reliable. It is intended to be used by persons with technical skill. Prior to use, users shall conduct their own investigations to determine the suitability of the information for their particular purpose, and appropriate warnings and safe handling procedures should be provided to handlers and users. Any use of this data must be determined by the user to be in accordance with Federal, State and local laws and regulations. Since conditions of use and suitability are beyond NanoFEA, LLC's control, risks of use and suitability are therefore assumed by the user, and NanoFEA, LLC expressly disclaims all warranties including warranties of the merchantability and fitness for a particular purpose, express or implied, in respect to the use or suitability of the materials.

## Document History

Rev. No.	Changes	Date	By
-001	Initial document.	5/14/2026	R. Kullberg
-001	Document approved.	5/14/2026	D. DeWire