

**Q: What is Zinc-Orthophosphate?**

A: Zinc orthophosphate ( $Zn_3(PO_4)_2$ ), also known as zinc phosphate, also referred to as ZOP, is widely used in corrosion control coatings on metal surfaces. It is primarily manufactured through the reaction of zinc and phosphoric acid. The majority of zinc orthophosphate manufactured in the U.S. is used in metal coating applications. Ours is manufactured in North Carolina.

**Q: Why do we need it in the water?**

A: Our drinking water has a slight corrosivity to it. Since most of the houses in town are older, many with lead solder, this causes the lead to leach out into the drinking water slowly over time. In an effort to reduce this interaction, the ZOP product will coat the inside of the pipes with a microscopic film to prevent lead from leaching from pipes into the drinking water.

**Q: Is Zinc-Orthophosphate safe?**

A: ZOP's been used for corrosion control in drinking water for years, and yes it is safe. ZOP is a hazardous chemical as defined by OSHA, but so are a ton of chemicals out there for everyday use. Truth be told, the only real concern is overdosing the chemical, which is why it's important to have well trained & educated staff members monitoring this sort of thing.

**Q: Are there any side effects to Zinc-Orthophosphate?**

A: At very high levels, ZOP can cause a slight metallic taste in the water due to elevated levels of zinc, which is an unpleasant taste to drink. At very high concentrations, consumers may experience upset stomach or nausea, and in some cases, vomiting. To quell any concern, we will continue to monitor our zinc levels, and they are *very low* to begin with.

**Q: Who made the decision to add Zinc-Orthophosphate to our drinking water?**

A: It was mandated by the State Drinking Water Program that a solution be found to Jackman's inconsistent, and sometimes high, lead results, but was left up to us as to how to address the issue. The operators at the Jackman Utility District, in conjunction with a water quality study performed by CDM Smith, and the experts employed by RCAP Solutions came to the conclusion that the Zinc-Orthophosphate addition would be the most cost effective and reliable way to get lead levels back in line with the required standards on a consistent basis.

**Q: When will this chemical be added?**

A: We have to have it added by June 30th, 2025, but will most likely be in the system beforehand. The District will provide adequate communication with the community, but if you're curious, call our office at (207) 668-7686 and ask; it's one of the reasons why we are here.

**Q: What dose will you be adding to our water?**

A: Initially, we aim for a dose of 1.0mg/l - 2.0 mg/l until we get a steady residual through the system. Then we will consider reducing the dose to 0.5mg/l - 1.0 mg/l.



## CARUS™ 3190 WATER TREATMENT CHEMICAL

### MUNICIPAL DRINKING WATER DATA SHEET

CARUS™ 3190 water treatment chemical is an effective corrosion inhibitor developed specifically for use in potable and industrial water systems. The product is a liquid concentrate of exceptional purity, clarity, and stability.

### BENEFITS OF CARUS 3190

- Inhibits corrosion of steel distribution system water lines, iron and galvanized piping, and lead and copper plumbing
- Decreases iron tuberculation to extend the life of the distribution system
- Forms a stable, highly resistant film on the inside of distribution piping and metal surfaces providing for effective corrosion control
- Lowers lead and copper levels in the delivered potable water by inhibiting corrosion in the water system
- Decreases the potential for trihalomethane (THM) formation by using the product at a lower water pH
- Protects against the release of asbestos or cement from water mains
- Saves money by reducing corrosion and decreasing hydrant flushing, leaks, and failures

### HANDLING AND STORAGE

CARUS 3190 water treatment chemical should be handled with care. Wear proper protective equipment including goggles, face shield, apron, respirator, and proper gloves when handling this product.

CARUS 3190 has a shelf-life of 3 years when stored and handled properly. Protect containers from physical damage. Store in a cool, dry, temperature controlled area in closed containers set off the floor. Store inside a heated building and off the floor for best storage conditions at your facility. Exposure to temperatures  $<0^{\circ}\text{F}$  ( $-18^{\circ}\text{C}$ ) may cause the product to increase in viscosity. It may become cloudy and/or freeze. This product may not be freeze/thaw stable. In case of accidental release: contain spill by collecting the liquid in a pit or holding behind a dam (sand or soil). Absorb with inert media and dispose of properly. Disposal of all materials shall be in full and strict compliance with federal, state, and local regulations Consult the Safety Data Sheet (SDS) for additional safety information.

### PROPERTIES AND CERTIFICATIONS

<b>Description:</b>	Clear homogeneous liquid
<b>Specific Gravity:</b>	1.29–1.40
<b>pH, (1% w:w)</b>	$\leq 2.5$
<b>NSF Maximum Feed Rate:</b>	16 mg/L
<b>NSF/ANSI Standard:</b>	60
<b>Shelf Life:</b>	3 Years

### COMPATIBILITY INFORMATION

CARUS 3190 water treatment chemical can be stored in high-medium density polyethylene, cross-linked polyethylene, and fiberglass reinforced plastic. Piping materials may include schedule 80 PVC/CPVC piping, clear PVC, and white polyethylene tubing. Pump materials may include ceramic, Teflon™, Viton™, Hypalon, and PVC liquid end pump materials.

Metering equipment can include diaphragm and peristaltic type metering pumps and other pumps meeting compatibility requirements.



Certified to  
NSF/ANSI/CAN 60



## SHIPPING

CARUS™ 3190 water treatment chemical is listed as a corrosive liquid, acidic, inorganic, n.o.s. (phosphoric acid) and is hazardous according to the US Department of Transportation, Canada TDG, UN, IMDG, or IATA regulations.

## SHIPPING CONTAINERS

**5 gallon (55 lb.) Jerrican** Made of high density polyethylene (HDPE). Weighs 3.31 lbs. (1.5 kg).

**The net weight is 55 lbs. (24.94 kg).**

**15 gallon (165 lb.) Drum** Made of high density polyethylene (HDPE). Weighs 6 lbs. (2.72 kg).

**The net weight is 165 lbs. (74.88 kg).**

**30 gallon (330 lb.) Drum** Made of high density polyethylene (HDPE). Weighs 12.2 lbs. (5.5 kg).

**The net weight is 330 lbs. (149.66 kg).**

**55 gallon (605 lb.) Drum**

Made of high density polyethylene (HDPE). Weighs 20.5 lbs. (9.21 kg).

**The net weight is 605 lbs. (274.38 kg).**

**275 gallon (3025 lb.) IBC (Intermediate Bulk Container)**

The IBC has a 2 inch (5.08 cm) butterfly valve with NPT threads in bottom sump. Weighs 123.2 lbs. (55.9 kg).

**The net weight is 3025 lbs. (1374.88 kg).**

**Bulk** Quantities up to 3500 gallons are available.

Other containers may be available.

Contact Carus at 800-435-6856 for details.

## CARUS VALUE ADDED

### LABORATORY SUPPORT

Carus has technical assistance available to answer questions, evaluate treatment alternatives, and perform laboratory testing. Our laboratory capabilities include consulting, treatability studies, feasibility studies, and analytical services.

### FIELD SERVICES

As an integral part of our technical support, Carus provides extensive on-site treatment assistance. We offer full application services including technical expertise, supervision, testing, and feed equipment design and installation to accomplish a successful evaluation and/or application.

### CARUS

During its more than 100-year history, Carus' ongoing emphasis on research and development, technical support, and customer service has enabled the company to become the world leader in permanganate, manganese, oxidation, and base-metal catalyst technologies.



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