



Buy Local: All Permanganate is Not Equal

CAIROX® POTASSIUM PERMANGANATE
CARUSOL® LIQUID PERMANGANATE
TECHNICAL BRIEF

LEADERSHIP

Over the past century, working from its original home in LaSalle, IL, Carus Corporation has developed a reputation for being the industry leader in quality and customer service while becoming one of the largest permanganate producers in the world.

Through collaboration with water industry professionals and our internal staff, Carus has developed innovative product grades and oxidation treatment techniques to assist our customers in achieving water quality goals.



LOCATION, LOCATION, LOCATION

Processing of Carus permanganate brands, CAIROX® potassium permanganate and CARUSOL® liquid permanganate, occurs in the LaSalle, IL location. We transform raw materials in our process into quality products, creating manufacturing jobs in the United States. Our warehouse and headquarters are also located in Illinois, allowing Carus the opportunity to provide quick lead times and unmatched world class customer service. We have a regional sales team located across the United States and employ over 200 people.



SUSTAINABILITY

Our permanganate multi-step manufacturing processes are proprietary, and include a century of the best improvements in U.S. chemical processing technologies. We also continue to search the globe for the highest quality raw materials that meet our stringent specifications. We take our raw materials, including energy, to convert from a raw manganese ore to permanganate.

Ongoing efficiency efforts at Carus' LaSalle, IL site places Carus in an elite group of industry leaders. The American Chemistry Council (ACC) has honored Carus Corporation with an Exceptional Merit Energy Efficiency Award four years consecutively along with Exceptional Merit designation two out of the four years. Carus was also one of ten companies recognized by the ACC with "Waste Minimization, Reuse, and Recycling" awards. Carus was one of only three companies to be honored for multiple sustainability projects, earning awards for "Water Reuse and Waste Minimization".

In partnership with the Illinois Sustainable Technology Center's "One Billion Gallon Water Challenge", Carus reduced water use by over 60 million gallons per year. In addition, Carus' "Water Recycling Project" decreased water consumption by 30% in 2017.

Carus also received the Governor's Sustainability award for significantly reducing energy use. As a participant in the Department of Energy's "Save Energy Now LEADER" program, Carus reduced energy consumption by 28% in just five years — exceeding the goal of 25% over a decade.

CARUS CORPORATION

ONE COMPANY. ENDLESS SOLUTIONS

CORPORATE HEADQUARTERS | 315 Fifth Street, Peru IL 61354 | Tel +1.815.223.1500 / 1-800-435-6856 | Fax +1.815.224.6697 | Web: www.caruscorporation.com | E-mail: salesmkt@caruscorporation.com

CARUS EUROPE | Calle Rosal 4, 1-B | Oviedo, Spain 33009 | Tel +34.985.785.513 / Fax +34.985.785.510

The information contained herein is accurate to the best of our knowledge. However, data, safety standards and government regulations are subject to change; and the conditions of handling, use or misuse of the product are beyond our control. Carus Corporation makes no warranty, either expressed or implied, including any warranties of merchantability and fitness for a particular purpose. Carus also disclaims all liability for reliance on the completeness or confirming accuracy of any information included herein. Users should satisfy themselves that they are aware of all current data relevant to their particular use(s).

Carus and Design is a registered service mark of Carus Corporation. CARUSOL® and CAIROX®, & Simplified Science® are registered trademarks of Carus Corporation. Responsible Care® is a registered service mark of the American Chemistry Council.

Copyright 2015
Rev 06/19
Form CX 1070





QUALITY

CAIROX® potassium permanganate and CARUSOL® liquid permanganate have evolved through the years to consistently meet the changing challenges of our water treatment customers' needs. While other producers try to replicate our products, CAIROX and CARUSOL remain unique in the industry.

All permanganates do not meet the **consistent quality** of CAIROX and CARUSOL. Nor do competing products always meet the AWWA B603, including NSF/ANSI 60 requirements for assay, flowability and fine particulates.

Often a low bid price will cost the utility more in labor, waste disposal, lost time and corrections to variable quality. This happens to potassium permanganate users when assuming all permanganates are the same. Here is what permanganate users say about other non-Carus permanganate products:

“Spent days cleaning 2 feet of sludge from the bottom of their permanganate mix tank after using “low bid” material.”

- A midwestern utility operator

“We thought going with the low bid would save us money...after the extra labor, the safety issues, and having lumpy permanganate not dissolve and tear up a feed pump, we would have saved money going with CAIROX.”

- A midwestern utility plant

When asked why our customers recommend Carus' products, they said:

“Great product. Always consistent.” and “Excellent top quality products.”

BENEFITS

CAIROX and CARUSOL are only produced by Carus Corporation, the world leader in permanganate technology. Carus Corporation has over 50 years of dedicated service to the water industry. We provide the following benefits to our customers:

- Consistent product quality
- Lower total cost to treat potential
- Convenient packaging options
- Simplified Science® — easy application
- Field proven results
- Dedicated customer service department
- Cost effective delivery solutions
- Complete technical support

CARUS VALUE ADDED

During its over 100-year history, Carus Corporation's ongoing reliance on research and development to provide Simplified Science® — as well as its emphasis on consistent quality, technical support, and customer service — has enabled the company to become the world leader in permanganate oxidation, manganese catalyst, & phosphate technologies.

LABORATORY SUPPORT

Carus' technical experts are available to evaluate treatment alternatives and perform laboratory testing. Our laboratory capabilities include:

- Feasibility studies
- Treatability studies
- Analytical services
- Research & development

FIELD SERVICES

As an integral part of our technical support, Carus provides extensive on-site treatment assistance. To accomplish a successful evaluation and/or application we offer full application services, including:

- Technical expertise
- Testing
- Equipment recommendations
- Safety training

PRODUCT STEWARDSHIP

Carus' mission to provide environmental solutions expands well beyond serving our customers' needs. We are equally committed to maintaining sustainable, responsible, environmentally-friendly operations.

Permanganate products are not registered as a pesticide under the Federal Insecticide, Fungicide and Rodenticide Act administered by U.S. EPA or similar state laws. Use as a pesticide is not government approved.