

A dynamic, high-speed photograph of water splashing, creating a large, central water droplet and numerous smaller bubbles and droplets scattered throughout the frame. The water is a deep blue color, and the background is a lighter, hazy blue.

Aqueous Solutions

Lohtragon[®]

Crystallizing Solutions

Liquid Efficiency with Lohtragon® Aqueous Solutions



Ready-to-Use Solutions for Streamlined and Clean Processing

- ◆ Ready-to-use Lohtragon® Aqueous Solutions **replace internal dissolving steps** and streamline formulation and production
- ◆ **Lower handling risks** and reduced exposure to powders or manual mixing
- ◆ Higher process precision through **consistent concentrations**
- ◆ **Clean, residue-free liquid metal salt solutions** for reliable downstream processing
- ◆ Tailored concentrations and compositions available

Lohtragon® Aqueous Solutions Co-developed for Your System

Custom Aqueous Solutions tailored to your needs through close collaboration and proven technical expertise.



Our mineral-based aqueous solutions – including calcium, magnesium, potassium, iron salts and more – offer a sustainable and declaration-friendly alternative to conventional solid materials. Provided **in an aqueous form**, they are fully dissolved and ready to use, they eliminate risks like caking, dust formation, or inconsistent solubility, making them ideal for process-sensitive or liquid-based formulations.

Benefits of Lohtragon® Aqueous Solutions at a Glance



Improved process efficiency

Skip in-house dissolution and accelerate your production workflow – delivered by the manufacturer



Sustainable alternative to powder

Cut emissions by avoiding drying and simplifying transport – reducing your environmental footprint



Regulatory & market compliance

Supports sustainable, declaration-friendly formulations meeting regulatory and consumer expectations



Precise and automated dosing

Enable high-accuracy dosing and seamless integration in automated systems



Tailored concentrations

We provide the exact concentration you need for your applications

Case Study: The Benefits of Aqueous Solutions from Sustainability Perspectives

	Potassium Acetate Solid	Potassium Acetate 50 % Solution
Q (kg)	15,000 kg	30,000 kg
	1 full truck	2 full trucks
500km transp.	700 kg CO ₂	1,400 kg CO ₂
Total CO₂	8,700 kg/CO ₂	1,400 kg/CO ₂
CO₂ saving	-7,300 kg/CO₂	

Please note that the given data is exemplary and subject to rounding

Switching from solid to aqueous forms can influence the environmental footprint of a product, since the energy demand for manufacturing and transport emissions differ between formats. For example, comparing 15 tons of solid Potassium Acetate with the equivalent 30 tons of a 50 % aqueous solution shows that the higher transport weight causes roughly double the CO₂ emissions during delivery. However, the lower energy demand in production more than compensates the transport emissions. Overall, this results in a **saving** of about **7,300 kg CO₂** – equivalent to driving around 39,000 km by car.



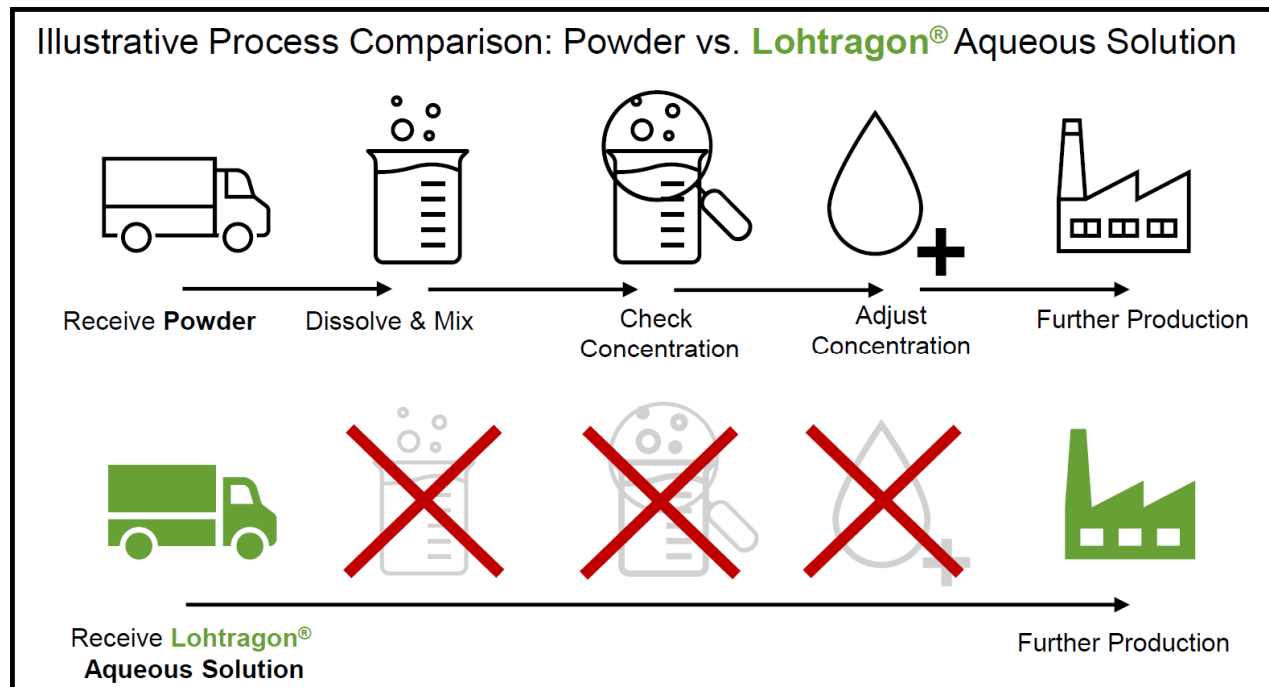
> 39,000 km (with a consumption of 7 l/100km)



> 575 trees (12.5 kg CO₂/a)

Liquid Efficiency with Lohtragon® Aqueous Solutions

Case Study: Process Optimization through skipped In-House Dissolution



Using aqueous solutions can streamline workflows by removing entire process steps. In contrast to powders, which might require dissolution, mixing, concentration checks, and adjustments before use, an aqueous solution arrives ready for direct application in production. This reduces handling complexity, saves time and resources, and helps ensure consistent quality from the start.

The Lohtragon® Aqueous Solutions Portfolio

Aqueous Solution	Concentration*	Feature & Benefit
Aluminium Salts		
Lohtragon® L87 Aluminium Lactate Solution	30 %	◆ Glaze modifier & Al₂O₃ precursor ◆ Enhances dye fixation & glaze control ◆ Improves hardness & chemical resistance → Enables high-quality, durable end products
Lohtragon® K87 Aluminium Nitrate Solution	35 %	◆ Highly reactive aluminium salt ◆ Water-based, non-toxic ◆ Versatile for adhesives & synthesis → Delivers safer, more efficient production with broad application potential
Lohtragon® C54 Aluminium Dihydrogen Phosphate Solution	50 %	◆ High-temperature resistant binder ◆ Strong adhesion for ceramics & refractories → Ensures durable, cost-efficient performance in extreme heat applications

*The table indicates the salt content of the products. For specification purposes, however, we prefer to express concentrations as pure metal content.

Liquid Efficiency with Lohtragon® Aqueous Solutions

Aqueous Solution	Concentration*	Feature & Benefit
Ammonium Salts Lohtragon® O55 Ammonium Acetate Solution	50 %	◆ Buffering & complexing agent for stable pH ◆ Enables uniform, high-quality metal deposition ◆ Improves electroplating efficiency & adhesion → Supports efficient, high-quality production with reliable results
Lohtragon® B92 Ammonium Formate Solution	50 %	◆ Hydrogen donor for selective hydrogenation ◆ pH buffer & metal complexing agent ◆ Reducing agent for glass & ceramics → Supports precise, efficient processes across diverse applications
Lohtragon® L10 Ammonium L-Lactate Solution	50 % 60 % 70 %	◆ Corrosion and scale inhibitor ◆ Mild antimicrobial properties ◆ Food- and feed-grade buffering agent → Supports safer, multifunctional formulations with enhanced preservation and system protection
Calcium Salts Lohtragon® O50 Calcium Acetate Solution	24 %	◆ Bioavailable calcium for crop quality ◆ Reactive precursor & pH buffer ◆ Eco-friendly de-icer & dust suppressant → Provides versatile, sustainable solutions for agriculture, industry, and infrastructure
Lohtragon® L53 Calcium Glycerophosphate Solution	39 %	◆ Industrial pH regulator ◆ Moisture-stabilizing granular additive ◆ Excellent flow properties for processing → Ensures efficient, consistent production
Lohtragon® O53 Calcium Nitrate Solution	45 %	◆ Ensures uniform latex layer for safety gloves ◆ Acts as emulsion breaker in polymer production ◆ Highly soluble calcium & nitrate source for crops → Supports high-quality, efficient production across industrial and agricultural applications

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Liquid Efficiency with Lohtragon® Aqueous Solutions

Aqueous Solution	Concentration*	Feature & Benefit
Iron Salts		
Lohtragon® C97 Ferric Ammonium Citrate Solution	55 % 60 %	- High iron & ammonium content for plant nutrition - Stable iron precursor for catalysts - Reliable iron source for durable ceramic pigments → Delivers versatile iron-based performance across agricultural, industrial, and creative applications
Lohtragon® C08 Ferric Sodium Citrate Solution	55 %	- Supplies bioavailable iron for plant micronutrition - Provides a stable, soluble iron source for industrial processes - Serves as a reliable precursor for iron-based chemical applications → Enables versatile iron performance across agricultural and industrial uses
Lohtragon® V89 Ferric Subsulfate Solution	70 %	- Oxidizing agent for surface treatment and etching - Catalyst and crosslinking aid in specialty polymer processes - Colorant and mordant in industrial dyeing applications → Provides reliable performance in demanding chemical manufacturing environments
Lohtragon® V88 Ferric Sulfate Solution	43%	- High-purity etchant for precise surface treatment - Source of iron ions for stable ceramic pigments - Coagulant for water purification & heavy metal removal → Helps achieve smoother operations and superior end product quality across multiple applications
Lohtragon® V01 Ferrous Sulfate Solution	21 %	- Chromate reducer for safer cement production - Rust converter & pigment precursor in coatings - Coagulant & oxidizer for water purification → Makes processes safer, easier, and more efficient while ensuring high-quality results
Magnesium Salts		
Lohtragon® K91 Magnesium Acetate Solution	33 % 36 %	- Catalyst precursor for faster, high-yield reactions - Magnesium ion source for corrosion-resistant coatings - Buffer & Mg²⁺ supply for enzymatic processes → Enhances process efficiency and product quality across chemical, industrial
Lohtragon® L78 Magnesium Glycerophosphate Solution	50 %	- Stable magnesium source for industrial processes - Functional additive in flame-retardant applications - Reliable pH buffer in chemical manufacturing → Supports consistent production with enhanced process safety
Lohtragon® O51 Magnesium Nitrate Solution	38 %	- Catalyst & oxidizer for precise chemical synthesis - Magnesium & nitrogen source for crop nutrition - Fluxing agent for efficient ceramics & glass production → Supports faster, more efficient processes and consistently high-quality outcomes across diverse applications
Lohtragon® V13 Magnesium Sulfate Solution	25 %	- Magnesium & sulfur source for crop nutrition - Moisture control additive for durable polymers → Ensures stable processes and high-quality end products in chemical, agricultural, and polymer applications

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Liquid Efficiency with Lohtragon® Aqueous Solutions

Aqueous Solution	Concentration*	Feature & Benefit
Potassium Salts		
Lohtragon® O52 Potassium Acetate Solution	50 % 65 % 70 %	- Trimerization catalyst for rigid foam production - Electrolyte & conductivity enhancer for energy storage - Fire extinguishing agent for industrial use → Delivers consistent quality, improved efficiency, and reliable safety across multiple industries
Lohtragon® B91 Potassium Formate Solution	70 %	- Eco-friendly de-icer with low corrosivity - Fire suppressant for Class K cooking oil fires - Trimerization catalyst for PIR foam production → Combines safety, efficiency, and sustainability across environmental, industrial, and safety-critical applications
Lohtragon® L52 Potassium Glycerophosphate Solution	41 % 62 %	- Buffering and pH-stabilizing agent - Prevents precipitation in high-density fermentations - Soluble phosphate source for specialty lubricants → Ensures stable, reliable performance in demanding industrial processes
Lohtragon® L13 Potassium Lactate Solution	50 % 60 % 70 %	- Corrosion inhibitor in cooling systems and metal treatment - Component in eco-friendly de-icing solutions - Humectant and pH regulator in formulations → Delivers safer, reliable operations with reduced maintenance
Lohtragon® C60 Potassium Malate Solution	50 % 60 %	- Chemical synthesis intermediate and reactant - Component in Kolbe electrolysis for acetylene production - Used in metalworking and water-treatment processes → Enables dependable, efficient manufacturing with enhanced process reliability
Lohtragon® B90 Dipotassium Tartrate Solution	48 %	- Complexing agent for smooth, adherent electroplating - Nucleating agent for uniform polymer crystallization - Enhances product stability and mechanical properties → Ensures stable processes and superior end-product quality in both metal finishing and polymer manufacturing
Sodium Salts		
Lohtragon® K98 Sodium Acetate Solution	29 %	- Buffer & complexing agent for surface treatment - Catalyst & pH stabilizer in chemical synthesis - Eco-friendly thermal energy storage material → Combines process stability, product quality, and sustainability across multiple industries
Lohtragon® L44 Sodium Glycerophosphate Solution	34 %	- Corrosion inhibitor for steel in concrete - Deep penetration for long-lasting protection - Eco-friendly, vapor-permeable formulation → Enhances structural durability while maintaining sustainable and breathable construction solutions
Lohtragon® L12 Sodium L-Lactate Solution	50 % 60 % 70 %	- Corrosion inhibitor in metalworking and cooling systems - Component in environmentally friendly de-icing agents - Buffering and pH-regulating additive in formulations → Ensures stable, reliable performance with reduced maintenance needs

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Liquid Efficiency with Lohtragon® Aqueous Solutions

Aqueous Solution	Concentration*	Feature & Benefit
Lohtragon® B93 Sodium Propionate Solution	44 %	◆ Mold- and corrosion-inhibiting additive in coatings and construction materials ◆ pH regulator in industrial formulations ◆ Processing aid in chemical synthesis → Supports durable, low-maintenance applications with consistent performance
Lohtragon® B95 Sodium Succinate Solution	24 %	◆ Nucleating agent for stronger, heat-resistant polymers ◆ Complexing & corrosion-inhibiting additive for electroplating ◆ Crystal morphology modifier for stronger gypsum materials → Supports consistent manufacturing and high-performance results across polymer, metal finishing, and construction applications
Zinc Salts Lohtragon® O86 Zinc Acetate Solution	18 % 21 %	◆ Corrosion inhibitor for extended metal lifespan ◆ Crosslinking agent for stronger, more stable polymers ◆ Catalyst & precursor for advanced zinc-based materials → Increases durability, efficiency, and innovation potential across industrial and manufacturing processes
Lohtragon® O57 Zinc Sulfate Solution	12 %	◆ Auxilliary material for chemical synthesis ◆ Electrolyte or additive in electroplating ◆ Micronutrient component in plant nutrition → Optimized for precise dosing, homogeneous Zn²⁺ availability, and reproducible process performance

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Your solution has not been listed? **Contact us!**

Expertise That Moves You Forward – Rely on Lohtragon® Aqueous Solutions

With Lohtragon® as your partner, you benefit from decades of metal salt expertise and ready-to-use aqueous solutions that simplify processes while enabling CO₂ and efficiency improvements through tailored formulations.

Connect with us and develop your eco-friendly and efficient Lohtragon® Aqueous Solution – tailored to your process and sustainability goals!

Contact Us



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Lohtragon® – A Brand of Dr. Paul Lohmann®

For over 135 years, the company Dr. Paul Lohmann has been able to establish and maintain its leading position as an international manufacturer of mineral and metal salts that meet the highest quality standards. The product range includes over 400 different salts, from Aluminum to Zinc, in a total of over 7,000 different specifications. Dr. Paul Lohmann® supplies its specialty salts worldwide to customers in the pharmaceutical industry, food sector, food supplements, cosmetics and – under the **Lohtragon®** brand – to customers in industrial applications.

Lohtragon® stands for unique competences in manufacturing, optimizing and developing metal salts for a broad variety of industrial market segments. Established in diversity, tailor-made for you, your application and your process - our solution for your challenges!

Established Products

By choosing Lohtragon® products, you benefit from direct manufacturer sourcing and our "Made in Germany" quality and reliability promise.

Joint Developments

From concept phase to tailored product optimization, we are your partner to solve any development challenge.

Expert Services

Rely on services from our application technology, regulatory affairs, logistics, quality departments and more. We fully support you in all areas.