

QUALITY PERFORMS.



LANXESS Bromine Solutions

Bromine and intermediates
product guide

QUALITY WORKS.

LANXESS
Energizing Chemistry

A GLOBAL LEADER IN BROMINE AND INTERMEDIATES

INNOVATIVE. RELIABLE. SUSTAINABLE.

For close to a century, we have helped our customers to meet their needs with a broad portfolio of products and solutions. We are proud of our history, and look forward to helping our customers meet future performance, safety and compliance requirements by refining and redefining our portfolio with new and improved products that maximize sustainability. LANXESS Bromine Solutions is dedicated to providing products that are innovative, reliable and also minimize the impact on our environment and human health without sacrificing performance or quality. We are committed to Responsible Care practices and Product Stewardship for our products. As a leading Bromine and Intermediates producer, we are proud to be an excellent partner to our customers for a sustainable and secure global supply.

Global operations



★ LANXESS Bromine Solutions HQ ◆ Sales and Service Center ● Manufacturing ▲ Technical Competence Center
Strategic Bromine and Brominated Derivatives Agreements in South Arkansas and The Dead Sea.

We are committed to global sustainability and engineering chemical solutions that meet our customers' evolving needs.

BROMINE AND INTERMEDIATES

LANXESS Bromine Solutions is one of the world's leading manufacturers of Bromine and brominated Intermediates. With access to the world's two main sources of Bromine and significant ongoing investment in our Bromine ISO tank fleet and maintenance capacity, LANXESS Bromine Solutions is one of the leading global suppliers: Bromine and brominated Intermediates serve as building blocks for developing and engineering highly complex organic molecules that meet specific performance, environmental and quality requirements. Bromine and its Intermediates are utilized in many applications including flame retardants, agrochemicals, pharmaceuticals, fine chemicals, high performance rubber, polymers and biocides.

Additionally, inorganic bromides are important chemicals for the energy sector. Clear brine fluids are used in oil and natural gas production and the GeoBrom® product line of Bromine derivatives is a part of the solution for mercury emission control in coal fired power stations and industrial boilers.

Innovative solutions

Our expertise in Bromine and Bromine based chemicals, both in the lab and in full scale production, is built on a foundation of over 60 years of innovation and continuous improvement. Our state-of-the-art, dedicated technology centers in the United States are staffed by a growing team of highly experienced scientists skilled in a wide array of synthetic methods and chemical manufacturing processes.

We operate multi-purpose, flexible pilot facilities in the United States which enables us to readily scale up new products and processes from grams to tonnes before the commitment to full scale production. While primarily focused on providing the highest quality and most reliable Bromine and brominated intermediate products, our technology team also provides custom synthesis and process development services to customers seeking to advance their project with an experienced and reliable partner.



BROMINE & INTERMEDIATES PRODUCT RANGE

Chemical name	CAS no.	Applications
Bromine & hydrobromic acid		
Bromine	7726-95-6	Flame retardants, agrochemicals, fine chemicals, dyes, Pharmaceuticals, high performance rubbers and biocides
Hydrobromic acid solutions	10035-10-6	Agrochemicals, fine chemicals, dyes, pharmaceuticals, PTA, biocides and mercury control
Anhydrous hydrogen bromide	10035-10-6	Fine chemicals, pharmaceuticals and plasma etching
Alkyl bromides		
Cetyl bromide	112-82-3	Surface active agents, biocides, specialty intermediates and viscosity modifiers
Dibromomethane	74-95-3	Fine chemicals, agrochemicals and biocides
Ethyl bromide	74-96-4	Fine chemicals, solvents and pharmaceuticals
Ethylene dibromide	106-93-4	Fine chemicals, agrochemicals, pharmaceuticals and scavenger for lead in gasoline
Lauryl bromine	143-15-7	Specialty intermediates and viscosity modifiers
Methyl bromide industrial	74-83-9	Fine chemicals, pharmaceuticals and agrochemicals
n-Butyl bromide	109-65-9	Pharmaceuticals and agrochemicals
n-Propyl bromide	106-94-5	Pharmaceuticals, agrochemicals and solvents
Inorganic bromides		
Calcium bromide (dry or solution)	7789-41-5	Photography, food preservation, road treatment and freezing mixtures
Sodium bromide (dry or solution)	7647-15-6	Photography, high performance rubber and fine chemicals

Please contact your LANXESS Bromine Solutions representative if you require products not currently listed.



STRUCTURES

Bromine & hydrobromic acid

Bromine
Br₂

Hydrobromic acid
H-Br

Alkyl bromides

Cetyl bromide

Dibromomethane
CH₂Br₂

Ethyl bromide

Ethylene dibromide

Methyl bromide industrial
CH₃Br

n-Butyl bromide

n-Propyl bromide

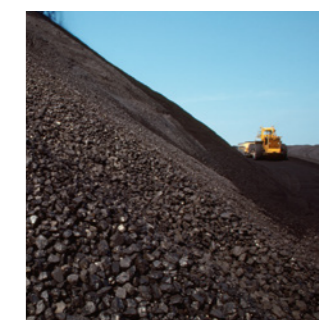
Lauryl bromide

Inorganic bromides

Calcium bromide*
CaBr₂

Sodium bromide*
NaBr

*dry or solution



PRODUCT SAFETY AND STEWARDSHIP

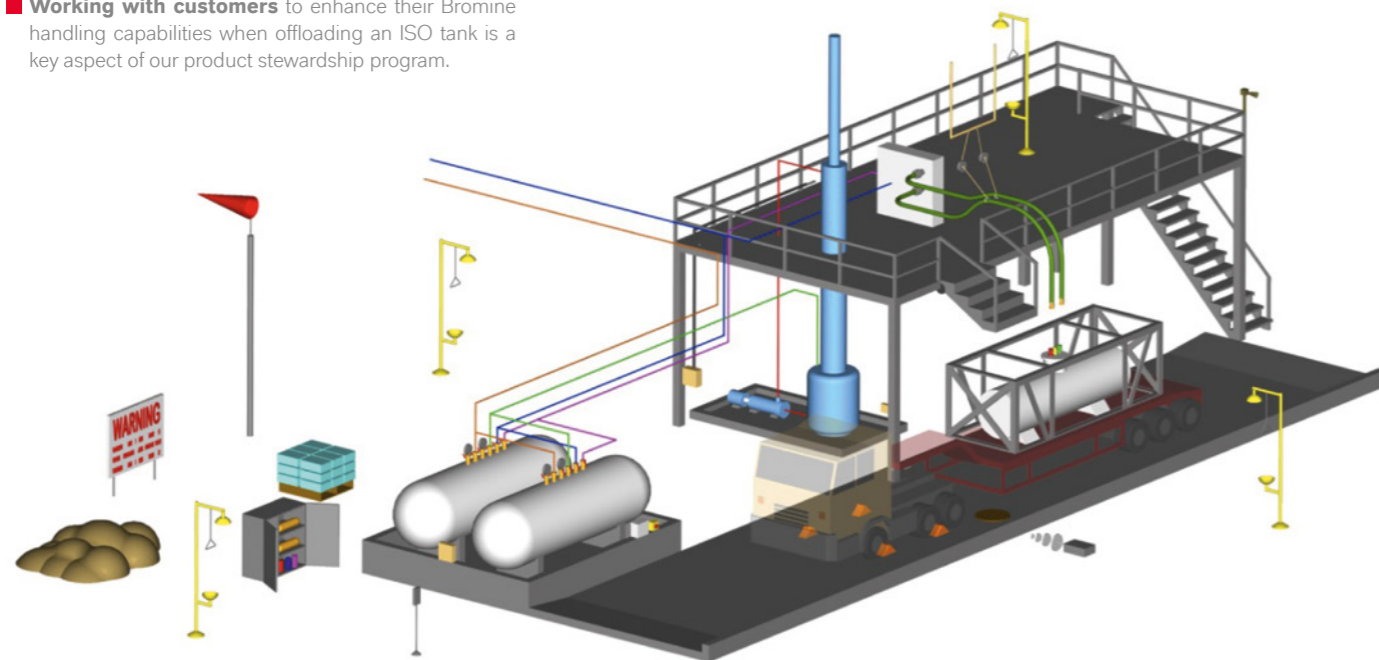
Our Bromine and Intermediates division manufactures and distributes products primarily used as “building block” chemicals which are handled in industrial settings. We utilize our business management systems, questionnaires and in many cases onsite safety assessments to evaluate our customers’ abilities to handle our products in an appropriately safe manner. As opportunities and needs merit, we then further educate our customers on the chemical they receive through safety data sheets, direct interaction, and where appropriate, supplemental information we have developed.

LANXESS Bromine Solutions is dedicated to Responsible Care practices and continuous improvement and is willing to work with our customers in ways that further enhance the safe and responsible distribution, handling and disposal of our Bromine and Intermediates products. Please contact your LANXESS Bromine Solutions representative if you have questions regarding safety and handling of our Bromine and Intermediate products.



Example of an ISO tank offloading facility

■ **Working with customers** to enhance their Bromine handling capabilities when offloading an ISO tank is a key aspect of our product stewardship program.



RESPONSIBLE CARE COMMITMENT

We are committed to strong performance – for our customers and for ourselves – and to providing for the safety of our employees, our customers and their customers, as well as meeting industry and environmental sustainability standards

and goals. The areas of performance, safety and sustainability permeate our organization and are closely related to make LANXESS Bromine Solutions the business it is today.





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