

Intermediates

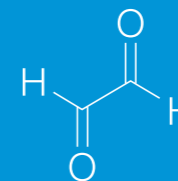


 **BASF**

We create chemistry

Glyoxal

Reduced Product Carbon Footprint
Solutions for your Business



At BASF, we create chemistry – and have been doing so for 150 years. Our portfolio ranges from chemicals, plastics, performance products and crop protection products to oil and gas. As the world’s leading chemical company, we combine economic success with environmental protection and social responsibility. Through science and innovation, we enable our customers in nearly every industry to meet the current and future needs of society. Our products and solutions contribute to conserving resources, ensuring nutrition and improving quality of life. We have summed up this contribution in our corporate purpose: We create chemistry for a sustainable future. Our ambition is to be the preferred chemical company to enable our customers’ green transformation.

About BASF Intermediates

BASF’s Intermediates division is a global leader in the development, manufacture and marketing of sustainable chemical intermediates. With more than 600 products in our portfolio, particularly amines, diols, polyalcohols, acids and specialties, we offer innovative solutions for a wide range of industries, from coatings and plastics to pharmaceuticals and crop protection. Our intermediates can improve the properties of end products and increase the efficiency of production processes, and can in addition enable our customers to achieve their sustainability goals. As an ISO 9001 certified division, we operate a global network of production sites in Europe, Asia and North America.

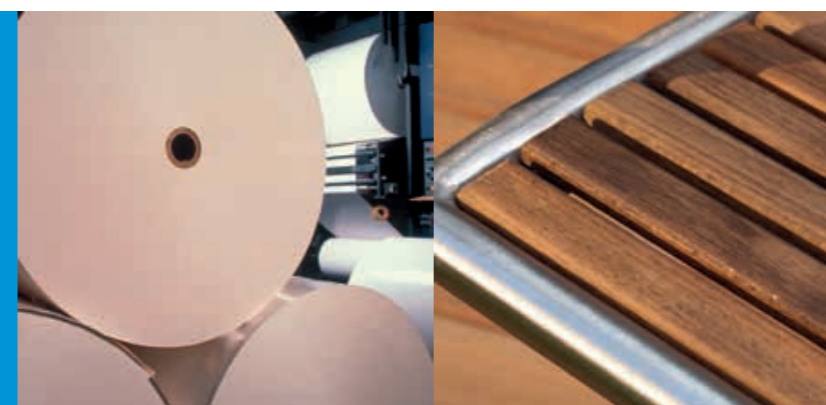


Since its discovery in 1856, Glyoxal has been an important component in chemical applications. BASF has many years of R&D experience with Glyoxal and has developed a vast number of applications ever since.

Due to its diverse properties, Glyoxal can be used in a wide range of innovative applications. To discover new fields of use, we are working closely together with our customers. As their partner, we are highly interested in supporting our customers with our expertise to maximize their innovative outcome.

Applications

Application	Characteristic	Benefit
Textiles	■ Crosslinking agent or building block for crosslinker	■ Softer and less wrinkled textiles ■ Durability enhancement of textiles
Paper	■ Crosslinking agent or building block for crosslinker	■ Increases paper wet strength (e.g. toilet paper) ■ Increases paper dry strength (e.g. recycled paper) ■ Efficient paper coating additive for high-quality papers (e.g. cardboard)
Oil & Gas	■ H ₂ S scavenger ■ Crosslinking polymers (hydrocolloids)	■ Anti-corrosive ■ Biodegradable ■ Supports safety at work ■ Improves viscosity in oil-drilling fluids
Disinfection	■ Biocidal active ingredient for disinfection formulations	■ Co-biocide for disinfectants used in the health industry and in veterinary hygiene ■ Effective when formulated together with e.g. glutaraldehyde
Leather	■ Crosslinking in tanning process	■ Preservation of leather quality
Cosmetics	■ Crosslinking polymers (hydrocolloids)	■ Increases viscosity in emulsions
Epoxy	■ Building block for specific epoxy applications	■ Higher epoxy stability & performance
Wood Hardening	■ Crosslinking agent or building block for crosslinker	■ Wood curing ■ Protection from moisture
Glyoxylic Acid	■ Raw material	■ Serves as an intermediate for vanillin, agricultural chemicals, antibiotics, allantoin, complexing agents
Imidazoles	■ Raw material	■ Versatile intermediates with a variety of applications, ranging from building blocks in pharmaceuticals and pesticides to catalysts in polyurethanes and epoxy systems



Reduced Product Carbon Footprint Solutions for your Business

Glyoxal from BASF is a solution for your needs. Thus we offer you more than just a product:

Sustainability:

Glyoxal is classified as 'readily biodegradable' by showing more than 90% decrease of dissolved organic carbon according to OECD guidelines 301 C-E and 303 A. Therefore, it already represents a more sustainable option compared to competitive technologies in various industries. In addition, BASF offers grades of Glyoxal with a reduced Product Carbon Footprint.

Substitution of aldehydes:

Glyoxal shows high potential in the substitution of aldehydes, e.g. for formaldehyde or glutaraldehyde. Additionally, in disinfection it can be used as a co-biocide formulated together with glutaraldehyde from BASF.

Accreditation for food packaging:

Glyoxal is listed as an accredited chemical substance for the production of paper for food packaging by the Federal Institute for Risk Assessment (BfR) in Germany, and by the Food and Drug Administration (FDA) in the U.S.

Reliability:

With 60,000 metric tons annual world-scale production in Ludwigshafen BASF is one of the world's leading Glyoxal suppliers. Our backward-integrated production of Glyoxal guarantees efficient and reliable supply wherever you are.


Services:

Whether you need bulk or packaged material, we ensure efficient solutions. Our advice on packaging and dedicated storage facilities guarantee reliable supply to allow you to run your business steadily.

Registration support:

We registered Glyoxal in the EU under REACH. Together with BASF's specialist biocide group in our Care Chemicals division, we support customers with registrations for their biocidal products according to the EU Biocidal Products Directive.

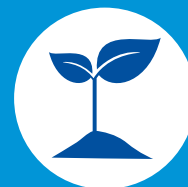
Product Properties and Specification

Nomenclature	Name:	Glyoxal, 40% aqueous solution
	Chemical name:	ethanedial, oxalaldehyde
	CAS No.:	107-22-2
Chemical structure		
Physical and Chemical Properties	Form:	liquid
	Color:	colorless to pale yellow
	Odor:	almost odorless
	Solubility:	miscible with water and with all water-miscible organic solvents
	Boiling point:	104 °C
	Density at 20 °C:	1.27 g/cm ³
	Vapor pressure at 20 °C:	20 mbar
	Ignition temperature:	285 °C (DIN 51794)
Product Specification	Assay	39.5% - 40.5%
	Formaldehyde	max. 0.01%
	Acid number	max. 1.50 mg KOH/g
	pH value	2.00-3.50
	Color	max. 20 APHA
	Monoethylene glycol	max. 1.5%



Glyoxal

Reduced Product Carbon Footprint Solutions for your Business



Your benefits:

- Reliable supply
- Biodegradability
- Accreditation for food packaging
- Substitution of aldehydes
- Logistics services
- Registration support



<https://chemicals.basf.com/global/en/Intermediates>

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