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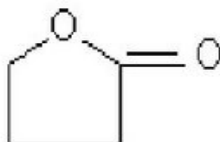
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Technical Data Sheet

Gamma-butyrolactone

Product Information

Chemical Name	Gamma-butyrolactone
CAS #	96-48-0
Formula	C ₄ H ₆ O ₂
Molecular Weight	86.1
Synonyms	GBL, butyrolactone, 1,4-lactone, 4-butyrolactone, 4-hydroxybutyric acid lactone, gamma-hydroxybutyric acid lactone
Chemical Structure	



Description

Gamma-butyrolactone is a kind of colorless liquid free of suspended substance. It is miscible with water, alcohols, ketones, esters and aromatic hydrocarbons. Solubility is limited in aliphatic and cycloaliphatic hydrocarbons.

Physical Properties

Melting point, °C .	- 43
Boiling range, °C	201 – 206
Density @ 20°C, g/cm ³	1.13
Flash point, °C	104

Specification

Item	Industrial Grade	Electronic Grade
Assay, % min.(GBL and methyl derivatives)	99.7	99.9
Water, % max.	0.05	0.05

Color, APHA max.	20	10
1,4-Butanediol, % max.	0.10	0.10
Acid, wt. % max. (calculated as butyric acid)	0.03	0.03
Other matter	None	None
THF, % max.	----	0.05
Acetal, ppm max.	----	50
Additional Specification to Electronic grade		
Chloride, wt. ppm max.		0.30
Sulfate, wt. ppm max		1.00
Nitrate, wt. ppm max		1.00
Iron, wt. ppm max		0.05
Copper, wt. ppm max		0.05
Zinc, wt. ppm. Max		0.05
Lead, wt. ppm max		0.05
Sodium, wt. ppm max		0.50
Potassium, wt. ppm max		0.50

Safety

Gamma-Butyrolactone (GBL) is a strong mucous membrane irritant, as well as a mild skin irritant.

GBL can penetrate the epidermis and cause rashes or eczema.

GBL has a slightly narcotic effect.

Always refer to the Material Safety Data Sheet (MSDS)

Applications

GBL serves as a chemical intermediate in the manufacture of all pyrrolidones.

It can be used in the production of pesticides, herbicides and plant growth regulators.

GBL may be formed as an intermediate in the production of vitamins and pharmaceutical.

GBL is a common solvent and reagent in chemistry and is used as an aroma compound, as a stain remover, as a superglue remover, as a paint stripper, and as a solvent in some wet aluminium electrolytic capacitors

As a solvent, GBL can be used in/with:

- pesticides
- photochemical etching
- electrolytes of small batteries or capacitors
- viscosity modifiers in polyurethanes
- surface etching of metal coated plastics
- organic paint disbursements for water soluble inks
- pH regulators in the dyeing of wool and polyamide fibers
- foundry chemistry as a catalyst during curing
- curing agents in many coating systems based on urethanes and amides

Packaging

200kg per plastic or iron drum.
16mt per 20ft container

Storage & Handling

gamma-Butyrolactone has an almost unlimited shelf life in unopened containers when properly stored in a protected storage area. This product is neither explosive nor spontaneously flammable in air. However, it is combustible. Materials recommended for storage tanks are carbon steel, stainless steel and nickel. Please refer to the Materials Safety Data Sheet (MSDS) for the handling methods.

Always refer to the Material Safety Data Sheet (MSDS) for detailed information on handling and disposal.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchant ability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if we has been advised of the possibility of such damages.

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