



# Amalgamated Sugar

Pure. Sweet. Grower-Owned.

Manufactured for:  **Micronutrients**  
a Nutreco company

## Product Data Sheet

### Betaine Liquid

#### General:

Formula	C <sub>5</sub> H <sub>11</sub> NO <sub>2</sub>
Molecular weight	117.1
Appearance	Brownish Liquid

#### Specification:

Betaine anhydrous (HPLC):	min.	36%
Moisture (Refractive Index):	max.	45%
Ash (residue on ignition)	max.	2.0%
Chloride	max.	0.1% (on dry matter)
Sulphate	max.	0.1% (on dry matter)
Viscosity	max.	2.5 cP
Density at 25°C:		1.00 – 1.10 kg/l
pH:		7.5 – 12.0

#### Undesired substances (on dry matter):

Lead (Pb)	max.	5.0 ppm
Cadmium (Cd)	max.	1.0 ppm
Arsenic (As)	max.	1.0 ppm
Mercury (Hg)	max.	0.1 ppm

#### Dioxin:

Sum of polychlorinated benzo-para-dioxins, polychlorinated dibenzofurans, and polychlorinated biphenyls expressed in World Health Organization (WHO) equivalents using the WHO Toxic Equivalency Factors (1997): maximum 0.50 ppt.

#### Sum of Dioxins and dioxin like PCB's:

Sum of polychlorinated benzo-para-dioxins, polychlorinated dibenzofurans, and polychlorinated biphenyls expressed in World Health Organization (WHO) equivalents using the WHO Toxic Equivalency Factors (1997): maximum 0.85 ppt.



**Microbiological:**

Salmonella: Absent in 25g

**GMO declaration:**

Regulation (EC) No 1829-2003 of the European Parliament and of the Council of September 22, 2003 on genetically modified food and feed.

Regulation (EC) No 1830-2003 of the European Parliament and of the council of September 22, 2003 concerning the traceability and labeling of genetically modified organisms and the traceability of food and feed products produced from genetically modified organisms and amending Directive 2001-18-EC are not applicable for betaine.

**Animal Protein:**

No raw material, ingredients or process aids are of animal origin.

**Shelf Life**

2 years from date of manufacture.

**Stability**

Heat stable up to 200°C. Stable in pelleting and extrusion processes.

**Packaging**

Bulk railcar tanker, bulk liquid truck tanker, or ISO trailer containers.

**Storage**

Store in a cool, dry place in original packaging.

Reviewed/Revised: January 16, 2020