



5-Aminolevulinic Acid Hydrochloride

$\text{NH}_2\text{CH}_2\text{CO}(\text{CH}_2)_2\text{COOH HCl} = 167.6$

Cas No. 5451-09-2

Catalog Number ☐ CRI-AL-05-1 1 g

☐ CRI-AL-05-2 10 g

Lot : _____

Origin : fermentation

Formulation : White powder (Crystal), Soluble in water (solubility: MT 500g/L)

Soluble in MeOH, Insoluble in EtOH

Purity :	Composition*	Assay (HPLC)	min.	98 % (100.2%)
		Other Amino acid	max.	1%
		Ashes	max.	0.1% (0.03%)
		Heavy Metals	max.	20ppm
		Water	max.	0.5% (0.07%)
		Microbial limit test	compatible (Bacteria/Fungi)	

[*Method specified by]
the company

Storage :

Store in the dark under 2-8°C and protect from light.

In case stored as solution, please note description following and avoid long-term storage

- Avoid storage with higher concentration (MT 1%)
- The product is unstable under the condition above pH 7.
1% solution will be stable for 2 days below pH5 and stable for 1 month below pH2.35 (3).
- Decomposed with alkaline solution and converted to dimmer form Pyrardine (Irreversible)
- Melting Point (decomp.) 156-158°C
- Filtration is recommended for sterilization of solution

Cautions :

- This reagent is acidic materials so do not ingest, swallow or inhale. Do not get in eyes, on skin or on clothing.
- Protect from direct light in whole process of applications.

Application notes :

5-ALA is applied in variety of scientific fields with wide range. Examples of applications are shown below.

Please refer published papers for details of specific applications.

- Application in production of Cytochrome P450 (4)
- Improvement of harvest yield or increase of plant greenness (5)
- Supplement for culture of microorganism or cells from animals (6)
- Research relating production of active oxygen derived from accumulation of excess amount of porphirins (7)(8)
- Photodynamic diagnosis for cancer research (9)

Bibliography

(1)Mauzerall D. *et al.* J. Biol. Chem. 219: 435-446 (1956). (2)Okayama A. *et al.* Clin. Chem. 36: 1494-1497 (1990). (3)Elfsson, B *et al.* Pharmaceutical Science, 7, 87-91, (1998). (4)Imai T. *et al.* J. Biol. Chem.. 268, 19681-19689, (1993). (5) Hotta Y. *et al.* Plant Growth Regulation, 22, 109-114, (1997). (6)Nakayashiki T. *et al.* Genes Genet. Syst. 71, 237-241, (1996). (7)Rebeiz CA *et al.* Enzyme Microb. Technol. 6, 390-401, (1984). (8) Grant WE *et al.* The Lancet, 342, 147-148, (1993). (9)Kamasaki N. *et al.* J. Jpn. Soc. Laser Surgery Medicine, 22, 255-262, (2001).

