



ZINC INDUSTRIAS NACIONALES S.A.

TECHNICAL SPECIFICATIONS PENTAHYDRATED COPPER SULPHATE (Feed Grade)

Description Blue or light blue crystals
Formula $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
CAS No. 7758-99-8
EINECS 231-847-6

Chemical properties:

Element	Snow Type		Type Small		Snow Type <M-40		Snow Type <M-20		Method Reference
	% Min.	% Max.	% Min.	% Max.	% Min.	% Max.	% Min.	% Max.	
Purity	98		98		98		98		NTP 311.280
Copper - Cu	25		25		25		25		NTP 311.280
Iron - Fe		0.03		0.03		0.035		0.035	NTP 311,284
Zinc - Zn		0.03		0.05		0.035		0.03	AAS
Lead - Pb		0.005		0.01		0.01		0.01	AAS
Arsenic - As		0.0002		0.0002		0.0002		0.0002	AAS
Cadmium - Cd		0.0003		0.0003		0.0003		0.0003	AAS
Nickel - Ni		0.0005		0.0005		0.0005		0.0005	AAS
Mercury - Hg		0.0001		0.0001		0.0001		0.0001	Hydride Generator

Physical Properties:

pH 5%	4 +/- 0.5	4 +/- 0.5	4 +/- 0.5	4 +/- 0.5	ASTM D4972
Insoluble (%)	0.5 max	0.5 max	0.5 max	0.5 max	NTP 311.277
Humidity (%)	1 max	5 max	1 max	1 max	Gravimetric
Glass size (mm)	<1	<6	<0.43	<0.85	NTP 311.281
Anti - caking (%)	0.15 max	0.15 max	0.15 max	0.15 max	

Raw material:

Description	Quantity (%)				Origin
Electrolytic copper	100	100	100	100	Copper refining plant

Applications Animal feed, fertilizers, among others

Packaging 25 kg polypropylene bags. on 1000 kg pallets.
Jumbo polypropylene bags of 1000 kgs.

Storage Keep tightly closed in the original packaging in a cool, dry and well ventilated.
Protect from moisture. Away from incompatible materials such as powdered metals and alkaline products.

