Hydrocure S.A.

PHOSPHATE SALT FROM HYDROCURE S.A. SPAIN

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The Asturian Site

The Asturian site in the state of Oviedo, Spain, has six production units plus auxiliary service areas. Our infrastructure includes electricity generation, ample storage capacity for raw materials and finished products as well as maintenance shops.
The Asturian Sulfuric acid and Phosphoric acid plants began operations in 1969 as Fertilizantes Fosfatados Espana (FFM). FFM merged with Guanos y Fertilizantes de Espana (Guanomex) to form the Spanish government owned Fertimex in 1977. The technical grade Phosphoric acid (PWA) plant, was started up in 1971. The plant operated as a Herjimar facility until Hydrocure S.A. was created on August 16th, 2004.

The Asturian site specializes in producing many grades of Phosphoric acid and Phosphate salts. The site consists of a series of upstream production units to ensure both competitive costs and security of supply. Sulfuric acid is produced by burning Sulfur sourced locally, which is then used to convert Phosphate rock into Phosphoric acid. Phosphoric acid is purified and sold or converted to derivative products (e.g. Specialty Phosphate intermediates, Complex Phosphate salts and water soluble fertilizers).

Asturian is ideally located on the north side of Spain. It is situated in Spain's primary oil and gas producing region. The plant site covers 44 hectares in the middle of the Repsol Complejo Industrial Pajaritos, a hydrocarbon processing industrial complex that is approximately 3 km east of downtown Asturian.

The Ortho Phosphates Salts Plant

As one of Hydrocure six plants at the site, the Orthophosphates plant (Salts plant) produces high quality crystallized technical and food grade salts and has GMP, Kosher and Halal certifications. Grades produced include food and technical Monoammonium Phosphate (MAP), Diammonium Phosphate (DAP), Monopotassium Phosphate (MKP). The Salts plant also produces Monosodium Phosphate (MSP), Disodium Phosphate (DSP), and Trisodium Phosphate (TSP). These salts have a variety of uses, including food, specialty fermentation processes, sports drinks, fertilizers, and fire retardants. The Salts plant is the largest of its kind in the Americas for these products. Purified grade or FCC grade phosphoric acid (PWA) is reacted with ammonia, potassium hydroxide, or sodium hydroxide (depending upon the desired product) as following:

H3PO4 + NH3 –-> NH4H2PO4	Monoammonium Phosphate
H3PO4 + 2NH3 –-> (NH4)2HPO4	Diammonium Phosphate
H3PO4 + KOH –>– H2O + KH2PO4	Monopotassium Phosphate
H3PO4 + NaOH –>– H2O + NaH2PO4	Monosodium Phosphate
H3PO4 + 2NaOH –-> 2H2O + Na2HPO4	Disodium Phosphate
H3PO4 + 3NaOH –>– 3H2O + Na3PO4	Trisodium Phosphate

Products are available in 25Kg, 50lb, 1Metric ton and 2000 lb bags, consolidated in full container loads for ocean shipments or as break bulk in box trucks containers, or rail cars. Upon customer request, the MAP and DAP can also be shipped in bulk rail hopper cars.

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PRODUCTS AND SPECIFICATIONS

AMMONIUM PHOSPHATES	Formula	Grade	Nomenclature	CAS#/ Index Name	ASSAY	P_2O_5 Content (Typical)	pH (Typical)	Molecular Weight
DIAMMONIUM PHOSPHATE	$(NH_4)_2HPO_4$	FG	Diammonium Phosphate Ammonium Phosphate Dibasic	7783-28-0 Phosphoric Acid, Diammonium Salt	96.0%-102.0%	53.0% Min.	8.0	132.1
DIAMMONIUM PHOSPHATE	$(NH_4)_2HPO_4$	TG	Diammonium Phosphate Ammonium Phosphate Dibasic	7783-28-0 Phosphoric Acid, Diammonium Salt	25.0% Min. (NH_3)	53.0% Min.	8.0	132.1
DIAMMONIUM PHOSPHATE POWDER with 2% TCP	$(NH_4)_2HPO_4$	FG	Diammonium Phosphate with Tricalcium Phosphate	7783-28-0 Diammonium Phosphate		52.0% Min.	8.0	132.1
DIAMMONIUM PHOSPHATE POWDER with 2% TCP	$(NH_4)_2HPO_4$	TG	Diammonium Phosphate DAP	7783-28-0 Diammonium Phosphate	24.5% Min. (NH_3)	52.0% Min.	8.0	132.1
MONOAMMONIUM PHOSPHATE	$NH_4H_2PO_4$	FG	Monoammonium Phosphate Ammonium Phosphate Monobasic	7722-76-1 Phosphoric Acid, Monoammonium Salt	96.0%-102.0%	61.0% Min.	4.6	115.0
MONOAMMONIUM PHOSPHATE	$NH_4H_2PO_4$	TG	Monoammonium Phosphate Ammonium Phosphate Monobasic	7722-76-1 Phosphoric Acid, Monoammonium Salt	14.5% Min. (NH_3)	61.0% Min.	4.6	115.0
MONOAMMONIUM PHOSPHATE POWDER with 2% TCP	$NH_4H_2PO_4$	FG	Monoammonium Phosphate with Tricalcium Phosphate	7722-76-1 Monoammonium Phosphate		60.0% Min.	4.8	115.0
MONOAMMONIUM PHOSPHATE POWDER with 2% TCP	$NH_4H_2PO_4$	TG	Monoammonium Phosphate with Tricalcium Phosphate	7722-76-1 Monoammonium Phosphate	14.3% Min. (NH_3)	60.0% Min.	4.8	115.0
POTASSIUM PHOSPHATES	**Formula**	**Grade**	**Nomenclature**	**CAS#/ Index Name**	**ASSAY**	**P_2O_5 Content (Typical)**	**pH (Typical)**	**Molecular Weight**
MONOPOTASSIUM PHOSPHATE	KH_2PO_4	TG	MKP	7778-77-0	95% Min.	50.3%	4.2-4.7	136.1
MONOPOTASSIUM PHOSPHATE	KH_2PO_4	FG	MKP	7778-77-0	98% Min.	51.9%	4.5	136.1
SODIUM PHOSPHATES	**Formula**	**Grade**	**Nomenclature**	**CAS#/ Index Name**	**ASSAY**	**P_2O_5 Content (Typical)**	**pH (Typical) Calcium**	**Molecular Weight**
DISODIUM PHOSPHATE, ANHYDROUS	Na_2HPO_4	FG	Disodium Phosphate Anhydrous Sodium Phosphate Dibasic Anhydrous Disodium Orthophosphate	7758-79-4 Phosphoric Acid, Disodium Salt	98% Min.	50%.	9.1	142.0
DISODIUM PHOSPHATE, ANHYDROUS	Na_2HPO_4	TG	Disodium Phosphate Anhydrous Sodium Phosphate Dibasic Anhydrous Disodium Orthophosphate	7758-79-4 Phosphoric Acid, Disodium Salt	48% Min.	50%	9.1	142.0
DISODIUM PHOSPHATE, DUOHYDRATE	$Na_2HPO_4 \cdot 2H_2O$	FG	Dibasic Sodium Phosphate Duohydrate Disodium Orthophosphate Duohydrate Disodium Hydrogen Phosphate Duohydrate	10028-24-7 Phosphoric Acid, Disodium Salt, Dihydrate	98% Min.	39.9%	9.1	178.1
MONOSODIUM PHOSPHATE, ANHYDROUS	NaH_2PO_4	FG	Monosodium Phosphate Anhydrous Sodium Phosphate Monobasic Anhydrous Monosodium Orthophosphate	7558-80-7 Phosphoric Acid, Monosodium Salt	98%-103%	58.8%	4.5	120.1
MONOSODIUM PHOSPHATE, ANHYDROUS	NaH_2PO_4	TG	Monosodium Phosphate Anhydrous Sodium Phosphate Monobasic Anhydrous Sodium Biphosphate Monosodium Orthophosphate	7558-80-7 Phosphoric Acid, Monosodium Salt	95% Min.	58% Min.	4.7	120.0
TRISODIUM PHOSPHATE, DODECAHYDRATE	$4(Na_3PO_4 \cdot 12H_2O)NaOH$	TG	Trisodium Phosphate Dodecahydrate	10101-89-0 7601-84 Phosphoric Acid, Trisodium Salt, Dodecahydrate Phosphoric Acid, Trisodium Salt	92% Min.	41% Min.	11.6-12.6	1560.4
TRISODIUM PHOSPHATE, ANHYDROUS	Na_3PO_4	TG	Trisodium Phosphate Anhydrous Sodium Phosphate Tribasic Anhydrous Trisodium Orthophosphate Anhydrous	7601-54-9 Phosphoric Acid, Trisodium Salt	95.0% Min.	41.0%-43.4%	11.7-12.5	163.9
TRISODIUM PHOSPHATE, DODECAHYDRATE	$4(Na_3PO_4 \cdot 12H_2O)NaOH$	FG	Trisodium Phosphate Dodecahydrate Sodium Phosphate Tribasic Dodecahydrate	7601-54-9 Trisodium Phosphate, Hydrate	90.0% Min.	18.3% Min.	11.8	1560.4

TG = Technical Grade
FG = Food Grade