



EPOCH MASTER GLOBAL BUSINESS(JIANGSU)INC.

RM.3-93,TENGFEI BUILDING,NO.88 JIANGMIAO RD., RESEARCH AND INNOVATION PARK,
NANJING ZONE,(JIANGSU) PILOT FREE TRADE ZONE ,CHINA.

4A Zeolite

4A Zeolite (STPP Replacement) Higher Whiteness Sodium Alumino Silicate

Chemical name:Sodium Alumino Silicate

Sales Models:Wholesale

Reference FOB Price:US \$350-500 / Ton

Min Order:18.6~19.56mt

Port:Tianjin, China

Samples:US \$ 100/Piece

Payment Terms:L/C, T/T, Paypal

- Model:4A Zeolite
- Brand:RAWCHEM
- Code:22008
- CAS No.:As per composition list
- Molecular formula:Na₂O.Al₂O₃.2SiO₂.4.5H₂O
- H.S.Code:3824999999

Shelf life:24 months

Product Parameters

Appearance: white and fine free flowing powder

Composition:

Chemical Name	CAS#	Percentage
Silicon Dioxide	7631-86-9	50 max
Sodium Oxide	1313-59-3	30 max
Aluminum Oxide	1344-28-1	30 max
Magnesium Oxide	1309-48-4	5 max
Quartz	14808-60-7	3 max

Main indexes:

Index	Standard
Ca ²⁺ Exchanging Capacity by mgCaCO ₃ /g	310 min



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White (w=y) by %	97 min
pH (1% suspension, 25°C)	11 max
Loss on Ignition (800°C, 1 h) by wt %	19.5~20.5
Al ³⁺ content by wt %	18 min
Bulk Density by g/L	500 max
Particle size by wt (on 325mesh sieve) %	0.5 max
D50 (Average particle size)	2~5 um
Less than 4 um by wt %	90 min
Less than 10 um by wt %	99 min

Main Application

Application in detergent system

Zeolite can partially replace STPP in detergent system to soften water, comparing to STPP, the advantages of zeolite are:

1. Avoiding the phosphates pollution to water systems
2. Higher whiteness
3. Faster speed in exchanging calcium ion in hard water
4. Smaller particles provides the property of good dispersing and suspension in detergent system
5. Price is cheaper by 30~50%

Why zeolite can not fully replace STPP due to STPP's other functions like:

1. Enhancing the emulsifying and dispersing power, to increase the solubility of protein and dust which normally existing in the fabrics from daily life
2. Buffering agent, to make the pH value of detergent solution on the level of 9~9.5, so that those acid dirt can be easily removed from fabrics
3. Anti-caking agent for detergent powder. Since detergent powder is easily caking in exposed air, STPP can absorb the moisture and become Hexahydrate, which is dry and free flowing

Also there is a disadvantage to use Zeolite, that it's not soluble in water, caused the sedimentation of zeolite on the fabrics after being washed many times

Important Notice

1. Our Zeolite is synthetic process, not natural zeolite powder
2. To replace STPP, meanwhile solve the Zeolite's disadvantages, we are now producing silicates series products: MSD and APSM, below is the comparison of the main indexes of STPP, Zeolite, APSM and MSD/CSDS:



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Index	STPP	ZEOLITE		APSM	MSD
		Synthetic	Natural	(also called PSM,PSMA)	(also called CSDS)
Full name	Sodium Tripolyphosphate	4A Zeolite	Natural Zeolite	Activated Poly Sodium Metasilicate	Modified Sodium Disilicate
Appearance	White fine powder	White powder		White granular powder	
Whiteness	90 min	95 min	80 min	85 min	85 min
Odor	No odor	No odor	No odor	No odor, but irritant to nose and eye	
Bulk denstiy	650~950 g/L	550~700 g/L	1100~1300 g/L	350~600 g/L	480~600 g/L
Loading qty	25~26mt/20fcl	20mt/20fcl	27mt/20fcl	27mt/40HQ	
Effect	Best	Normal	Bad	good	
Main content	$\text{Na}_5\text{P}_3\text{O}_{10}$ 94% min	$\text{Na}_2\text{O} \cdot \text{Al}_2\text{O}_3$	N/A	$\text{Na}_2\text{O} + \text{SiO}_2$ 74% min	$\text{Na}_2\text{O}_2\text{SiO}_2$
Ca exchange	158 mg/g	295mg/g	N/A	320 mg/g	550 mg/g
Mg exchange	N/A	175 min	N/A	330 mg/g	N/A
pH	9.2~10.3	11.0 max	11.3 max	11.0 max	12.0 max
Identical index	P_2O_5 content	Al^{3+} content	N/A	$\text{Na}_2\text{O} + \text{SiO}_2$ content	SiO_2 content
Value of identical index	56.5% min	18% min	N/A	75% min	25% min
Water insoluble	0.1% max	100%	almost 100%	1.5% max	1.5% max
Moisture	0.5% max	22% max	16% max	N/A	5% max

2. As far as we know from experience of natural zeolite, the price is cheaper, but function is much inferior than synthetic one, because the function of natural zeolite is created by adding other chemicals like soda ash and surfactants

3. We normally list 2 years as the shelf life in our COA, the real shelf life is actually longer than 2 years if it's stocked in good condition (bags are sealed enough, away from direct sun-light, moisture and other incompatible chemical materials)