

Premium Diaper SuperAbsorbent Polymers

AQUA Sorb® is a solid, granular cross-linked sodium polyacrylate *Advanced Superabsorbent Polymer* that rapidly absorbs & retains large volumes of aqueous solutions, converting them into a semi -solid, gelled state.

For more than two decades, we have dedicated ourselves to the manufacture of superabsorbent polymers - and with great success. The fact that today's diapers have become much smaller and thinner - from more than 100 grams in the 1980s to only 45 grams today - is one of the achievements that have resulted from the progress we have made in the development of superabsorbents.

So effective, it's like magic

Just a few grams of superabsorbents are sufficient to store a baby's urine, making it "disappear." They can absorb up to 300 times their own weight in liquid, forming a gel that traps the liquid and won't release it, even under pressure. Our products are also used in feminine hygiene and adult incontinence products.

Optimal distribution of liquids

As generations of new absorbent polymers have been developed, our researchers have succeeded in continually improving their absorbent qualities. In 1986, the most important feature of these products was the amount of liquids they could hold. The next generation of absorbent polymers was not only capable of retaining fluid, it was also able to keep liquids trapped inside, even under pressure. In 1996, we succeeded in increasing the speed with absorbent polymers take on liquids, which meant diapers could be made even thinner than before. In 1998 our researchers optimized the distribution of liquids within the diapers. Now the entire absorbent area of the diaper is used to the fullest, both in diapers for little girls and for little boys. In order to do so, we had to teach the polymers a new "trick": they had to "learn" to build a barrier against additional fluid by forming a solid gel structure. We were able to increase the permeability of the gel, so liquids can be spread out over larger areas of the diaper, which consists of a mixture of cellulose and absorbent polymers.

AQUA Sorb® :

- ☑ Is Non-Toxic, Non-Hazardous; does not produce heat or off-gasses.
- ☑ Meets and exceeds EPA, OSHA, & ANSI Guidelines for absorbent material performances
- ☑ Passes the Paint Filter Liquid Test (Method 9095)
- ☑ Non-Biodegradable polymer (Per 40 CFR 264.314 (e) (1) (ii))
- ☑ Expands by less than 1% when hydrated
- ☑ SEG certified incinerable material with heat value of 5560 BTU/lbs.
- ☑ Strong ion exchange capability allows for heavy metals to be bound & waters to pass TCLP
- ☑ Absorbs over 200 times its weight in water
- ☑ Freeze-Thaw Tested - will not release liquids after freezing and subsequent heating to 160° F
- ☑ Produces over 5,000 BTU's per pound when incinerated
- ☑ Solidifies most aqueous solutions in less than 2 minutes—does not require mixing.

Product Analysis

Model		Aqua Sorb Premium
Chemical product name		Super Absorbent Polymer
CAS. No		9003-04-7
HS -code		3906.90.101000
Main element		Cross Linked Sodium Polyacrylate
Bulk size(mm)	Standard	0.1-0.850
	Others	
Free Absorbency (of Distilled Water) m/m		325-375
Free Absorbency (of 0.9%NaCl), m/m (≥)		40-50
Centrifugal Retention Capacity, g/g		28-35
Absorption Under Load, (0.3PSI) , g/g		23-28
Absorption Under Load, (0.7PSI) , g/g		Tested at 0.9 psi 15-20
Bulk Density(g/l)		0.650
PH		6.5-7.5
Moisture %		6-7
Particle size distribution	≥850µm	2-5%
	850-600µm	20-40%
	600-300µm	40-60%
	300-150µm	10-40%
	150-45µm	1-5%
	≤45µm	0-3%

Section 1: Manufacturer Information



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Prepared: June 1, 2010

Section 2: Physical/Chemical Characteristics

Appearance & Odor: Off-White color, Granule, Odorless
Boiling Point: N/A
Vapor Pressure & Vapor Density: N/A
Bulk Density: 0.5 g/cc
Melting Point: N/A
Evaporation Rate: N/A

Section 3: Hazardous Ingredients/Identity Information

Hazardous Components: OSHA PEL - ACGIH.TLV -
Other Components: Respirable particulate (dust)
Recommended Exposure Limit (dust) 0.05 mg/m3

Product Identification		
Chemical Name	CAS No.	%
Sodium Polyacrylate, Lightly Crosslinked Water	9003-04-7 7732-18-5	92 to 98 2 to 8
Acrylic Acid	79-10-7	<0.08

NFPA/HMIS: Health 1 Reactivity 0
 Fire 0 Specific Hazard 0
DOT Class: Not Regulated

Section 4: Fire & Explosion Hazard Data

Flash Point: Not available
Flammable Limits: Not available LEL -- UEL --
Extinguishing Media: Any

Special Fire Fighting Procedures: As with any fire, wear positive pressure, self contained breathing apparatus in any closed space when fighting fires.

Unusual Fire/Explosion Hazards: Under certain confined conditions, a concentrated fine dust of this material in air may cause a dust explosion if ignited.

Section 5: Reactivity Data

Stability: Stable **Incompatibility:** Strong oxidizers
Hazardous Decomposition or Byproducts: Thermal decomposition releases CO, CO₂, Hydrocarbons
Hazardous Polymerization: Will not occur
Conditions to Avoid: None Known

Available Products

Part#	Description	Weight
AS-50	Aqua Sorb in 50 pound bag	50 lbs.
AS-PAIL5	Aqua Sorb in 5 gallon D.O.T. bucket	40 lbs.
AS-DRM	Aqua Sorb in 350 pound drums	375 lbs.
AS-SAK	Aqua Sorb in US one ton sacks	2000 lbs.
AS-SAKM	Aqua Sorb in Metric ton sacks	2205 lbs.

Section 6: Health Hazard Data

Route (s) of Entry: Inhalation, Skin, Eyes

Health Hazards: Contact with eyes, skin or clothing may cause irritation. Care must be taken to minimize exposure and prevent workplace inhalation of respirable dust. Respiratory protection is required for exposures above the recommended level of respirable dust.

Carcinogenicity: None known
Signs/Symptoms of Exposure: Slight irritant symptoms
Conditions generally aggravated by exposure: Respiratory Ailments

Emergency and First Aid Procedures:
Eyes: Flush with large quantity of water, consult physician
Skin: Wash with soap and water.
Inhalation: Remove to fresh air, consult physician

Section 7: Control Measures

Respiratory Protection: Use NIOSH/MSHA approved or equivalent with high efficiency filter for particulate levels above 0.05 mg/m3.

Ventilation: As appropriate to control airborne dust levels below the applicable exposure limits.

Protective Gloves: Impervious/rubber

Eye Protection: Safety goggles

Other protective clothing or equipment: None

Work/Hygienic Practices: Good Housekeeping Practices

OTHER NOTES: Slippery When Wet

Section 8: Precautions for Safe Handling & Use

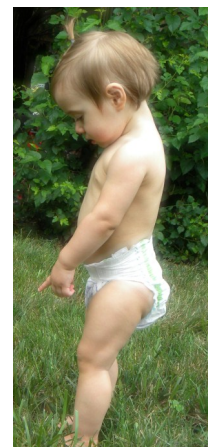
Steps to be taken in case material is released or spilled: Vacuum (using HEPA filter equipped system) if possible to avoid generating airborne dust.

Waste Disposal Method: Dispose of in accordance with federal, state and local regulations.

Precautions to be taken in handling and storing: Store in a cool, dry place. Avoid breathing powder. Avoid skin & eye contact.

Section 9: Supplemental Information

DISCLAIMER: The information contained herein is made available solely for consideration, investigation, and verification by the original recipients hereof. Users should consider this information only as a supplement to other information gathered by or available to them. Users should make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials for the safety and health of employees, customers, and the environment. This hazard information is not a substitute for risk assessment under actual conditions of use. Users have the responsibility to keep currently informed on chemical hazard information, to design and update their own programs, and to comply with all applicable national, federal, state and local laws and regulations regarding safety, occupational health, right to know, and environmental protection. Aqua Sorb® does not cause hazardous materials to become non hazardous-aqueous liquids are merely and temporarily changed to a gelled semi-solid state.



Available Through: