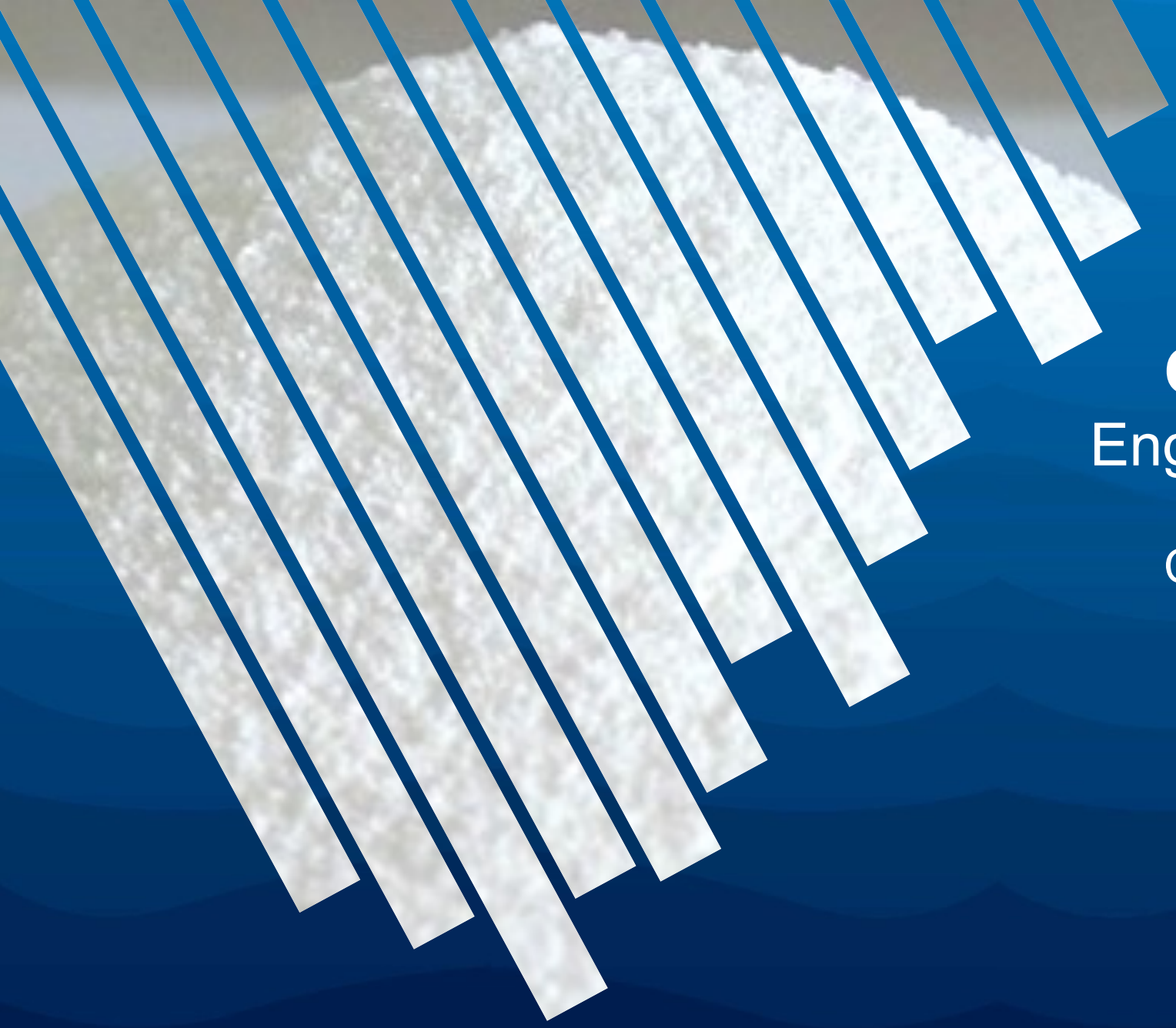

SUPER DRY
SUPERIOR DESICCANT

Customer's logo

CaCl2/Starch Desiccant

Engineered for Ocean transport

Comparison of desiccant types:

- **Environment**
- **Packaging**
- **Performance**

Environmental Impact

SILICA GEL

- ✗ Synthetic material manufactured under high energy input.
- ✗ High wastewater output.
- ✗ Recyclable but economically not feasible.

CALCIUM CHLORIDE & STARCH *

- ✓ Salt which is used as a food additive in food processing. 'GRAS' status by FDA.
- ✓ By- product from the Solvay process.
- ✓ Use of CaCl2 reduces waste storage needs.
- ✗ Recyclable but economically not feasible.

BENTONITE / DRY CLAY

- ✓ Natural clay product mined from calcium rich montmorillonite deposits.
- ✗ Open pit mining contributes to degradation of habitats and groundwater flows.
- ✗ Habitat rehabilitation not standard in many countries.
- ✗ Recyclable but economically not feasible.

*Super Dry CaCl desiccant is PFAS-Free

Packaging

SILICA GEL
(Plastic)

- ✓ High mechanical resistance. (Will not tear easily)
- ✓ Excellent moisture barrier.
- ✓ Material life cycle analysis:
  - Energy usage = 30%
  - Fossil fuel usage = 64%
  - Greenhouse gas emissions = 50%
  - Fresh water usage = 5%
- ✗ Not biodegradable.
- ✗ Recyclable but economically not feasible.

CALCIUM CHLORIDE & STARCH
(Plastic)

- ✓ High mechanical resistance. (Will not tear easily)
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- ✓ Material life cycle analysis:
  - Energy usage = 30%
  - Fossil fuel usage = 64%
  - Greenhouse gas emissions = 50%
  - Fresh water usage = 5%
- ✗ Not biodegradable.
- ✗ Recyclable but economically not feasible.

BENTONITE / DRY CLAY
(Kraft Paper)

- ✗ Low mechanical resistance (Can tear easily)
- ✗ Hygroscopic & poor moisture barrier.
- ✓ Material life cycle analysis:
  - Energy used = 100%
  - Fossil fuel used = 100%
  - Greenhouse gas emissions = 100%
  - Fresh water usage = 100%
- ✗ Release of greenhouse gases CO2 and Methane during paper biodegradation.
- ✗ Recyclable but economically not feasible.
- ✗ 20% of package weight is made of thermoplastic copolymers (glue) => not plastic but similar

Performance

SILICA GEL

- Low adsorption capacity: Adsorbs Max 30% of its original weight.
- 10 times more Silica Gel is required to protect the same area compared to Calcium Chloride desiccant.
- Adsorbs and releases moisture back into the air when it reaches max adsorption (35%) with a high risk of moisture release > 35°C.
- Surface adsorbent with low adsorption and low retention capacity.
- Fast activating desiccant: Reaches saturation within 3 days
- Narrow temperature application range between 15°C and 30°C.
- Relative humidity increases to dangerous levels when temperatures drop sharply.
- Not suitable for application as in-box desiccant for ocean shipments and long – term storage.

CALCIUM CHLORIDE & STARCH

- High absorption capacity: Absorbs up to 400% of original weight.
- 90% less desiccant needed compared to Silica Gel and Dry Clay.
- Absorbs and Captures moisture with no risk of moisture release back into the surrounding environment.
- Slower acting diffusion absorbent with high absorption and retention capacity.
- Slower activating desiccant : Continues to absorb for 3 months.
- Wide temperature application range between -5°C to +90°C.
- Keeps relative humidity steady when temperatures drop sharply.
- Suitable for all applications as in-box desiccant for ocean shipments and long-term storage.

BENTONITE / DRY CLAY

- Low adsorption capacity: Adsorbs Max 35% of its original weight.
- 10 times more dry clay is required to protect the same area compared to Calcium Chloride desiccant.
- Adsorbs and releases moisture back into the air when it reaches max adsorption (35%) with a high risk of moisture release > 35°C.
- Surface adsorbent with low adsorption and low retention capacity.
- Fast activating desiccant : Reaches saturation within 3 days
- Narrow temperature application range between 15°C and 30°C.
- Relative humidity increases to dangerous levels when temperatures drop sharply.
- Not suitable for application as in-box desiccant for ocean shipments and long – term storage.

SUPER DRY
SUPERIOR DESICCANT

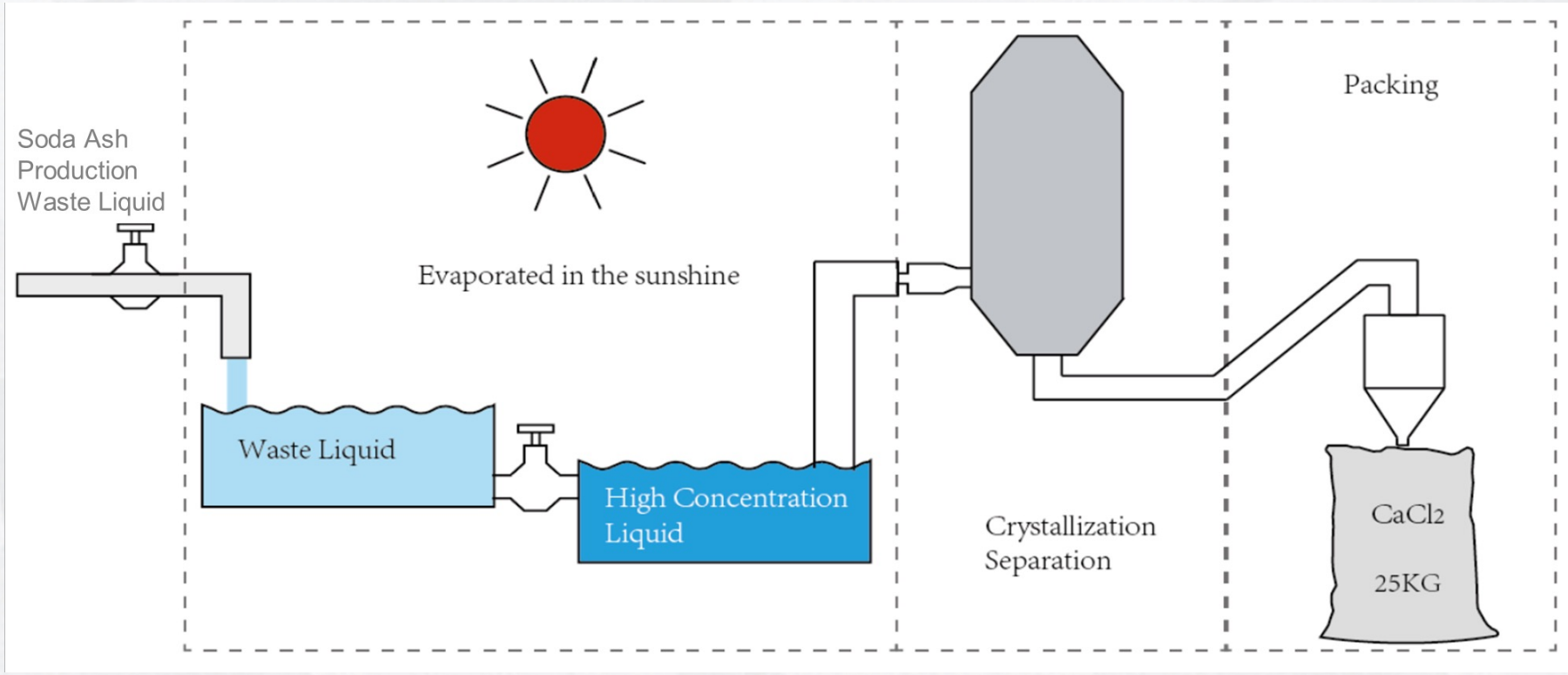
Sustainable

Calcium Chloride:

Is **recycled** from
the production of

Soda Ash

* Soda Ash is an essential raw material used in the manufacture of glass, detergents and soaps, chemicals and other industrial products.



SUPER DRY Desiccant versus Clay Desiccant

Test environment: 30℃, 90%RH

Days	Super Dry DS 25g			Clay 32g		
	Weight (g)	Water retention(g)	Absorption Rate	Weight (g)	Water retention (g)	Absorption Rate
0	30	-	-	33.7	-	-
3	57.8	27.8	111.1%	44.5	10.8	33.8%
5	71.2	41.2	164.7%	45.2	11.5	35.9%
8	81.0	51.0	204.0%	45.3	11.6	36.6%
15	93.1	63.1	252.5%	45.1	11.4	35.6%
25	105.6	75.6	302.4%	45.0	12.3	38.4%

Super Dry typical effectiveness 60-120 days depending on conditions

Why is the desiccant ingredient important?

- SD absorbs nearly 3 time the amount of water vapor ending day 3, 6 times overall.
- Clay absorbs little after day 3.
- Clay outgasses water vapor into the cargo environment (day 15)

Contacts

Name : Michael Hanrahan
SVP, Superdry Int'l Americas
Phone : 201 679 4703
Email : michael@superdryers.com

Name : Steve Ryan
VP, Mid-West Region,
Super Dry Int'l Americas
Phone : 312 371 5438
Email : steve@superdryers.com

Name : Mike Mickle
Desicca LLC – US Distributor
Phone : 904 742 1106
Email : admin@superdryamericas.com

Name : Fred Birnbaum (Hong Kong)
EVP & CCO at Super Dry International
Phone : (852) 9542 4019
Email : fred@superdryers.com

Global Contact List Available Upon Request