

## OSPR/Chevron

Technology Workshop

Solutions for energy, petrochemical, and military.

## Capion Technologies

- Proactive Protection
- Fire Prevention
- Spill Containment
- Secondary Containment
- Spill Remediation
- Site Cleaning
- Sheen Removal
- Energy from Waste Disposal Calear Tec















## Life Safety Attributes

- Reduce the health risks related to chemical exposure.
- Respond quickly allowing responders faster access to victims.
- Do not generate smoke and help reduce smoke inhalation tragedies.
- Provide improved visibility within an incident scene.
- Extinguish fires in seconds and help eliminate responder fatigue.
- Reduce healthcare costs related to exposure, smoke inhalation, fatigue, and other medical effects.

## **CRYOPELLETS**TM

- Approved medium by the EPA, USDA & FDA, and are non-toxic, non-hazardous and inhibit mold & bacteria growth.
- Do not release harmful gases into the atmosphere.
- Do not use any chemicals or natural resources.
- Do not generate secondary waste.
- Do not need to be cleaned up after deployment. Once particles impact a surface they dissipate into the atmosphere.
- Are inert and non-polluting.
- Reduce or eliminate exposure to (and corporate liability from) the use of dangerous chemical agents.



## Techno CLEAN<sup>TM</sup>

- Clean large surfaces of thin, hard contaminants, without damaging the substrate
- non-abrasive, nonflammable and nonconductive cleaning method
- environmentally-friendly and contains no secondary contaminants such as solvents or grit media
- No damage to active electrical or mechanical parts or creating fire hazards
- Remove production residues, release agents, contaminants, paints, oils and biofilms



## CRYOASSAULT





### **TECHNOCLEAN**













## Oil Remediation

### 28 Years providing:

- Water Treatment
- Storm Water
- Open Water spills
- Rivers and Streams
- Heavy Crude and Light Oils
- Sheen Removal
- Spill Kits
- Primary & Secondary Containment





## The RUBBERIZER® Advantage

	CLEARTEC RUBBERIZER®	ABSORBENTS & POLY
How product works	A physical reaction turns the oil into a rubber-like mass	Like a sponge, absorbents take in the oil as well as water
After retrieval	Will not leach under pressure	Will drip, drop and leach out oil
Effectiveness with light oils	Very effective, proven field tests	Can recover but will leak out of absorbent material
Effectiveness on sheen	Removes sheen	Cannot clean up sheen
Effectiveness with heavy, viscous oils	Effective with all types of oil, based on formula variations	Dependent on type of oil
High temperature effect	No effect	Little effect
Flash point	Lowers flammability of treated oil	May lower flammability
Volatile fumes	Solidifies and reduces volatile fumes	No effect on fumes
Labor Efficiency	Rubberizer works more effectively with an easy to handle, single waste stream	Produces two waste streams with significantly more labor hours required for remediation and processing
Application on solid surfaces	Effective on solid surfaces, where solidified oil can easily remediated	Not as effective, works like paper towels.
Waste volume	Very little volume increase with only a dry, single waste stream	Large volumes of both dry and wet waste.
Waste weight	Equal to the weight of solidifier	Equal to the weight of the absorbent plus additional water
Waste disposal-landfill	Solidifiers can be disposed of in most landfills since they pass leach tests	Only disposed of as hazardous waste; No landfill disposal of the liquid waste
Waste disposal-incineration	High BTU value generates electricity	Low BTU, energy
Recycling of used product	Can be recycled into other industrial processes including asphalt, rubber additives, or burned as fuel	Not applicable for most traditional absorbents



## True Cost of Remediation™

#### **CLEARTEC RUBBERIZER®**

- \$ product cost
- \$ deployment labor
- \$ one-time waste to energy fee

#### **\*UP TO 60% LESS EXPENSIVE!**



### Absorbents, Poly, and others

- \$\$ Same costs as Rubberizer® plus:
- \$\$ additional deployment labor
- \$\$ dry/wet waste separation
- \$\$ dry waste hazmat disposal fees
- \$\$ wet waste hazmat disposal fees
- \$\$ oil/water separation labor
- \$\$ oil/water separation equipment costs
- \$\$ safe water testing fees







## **Energy-from-Waste**

- All used Rubberizer<sup>®</sup> material is accepted as recoverable
- End-to-end waste management
- Largest network of Energy-from-Waste facilities in North America
- Realizing zero-landfill disposal
- Cradle-to-Grave product handling reduces costs of deployment
- Eliminates long term waste liability

Waste management hierarchy Keeping materials out of landfills



The European Union and the U.S. Environmental Protection Agency (EPA) have both concluded that following the waste management hierarchy generally maximizes energy savings and minimizes green-house gas emissions.



## Why Energy-from-Waste

### **RUBBERIZER®**

- Has 2.3 times more energy than coal
- Leaves only a .01% residual ash
- All gases are collected, filtered and cleaned
- Avoided carbon dioxide (CO2) emissions from fossil fuel combustion
- This is not incineration
- The result is clean, renewable energy



According to the U.S. Environmental Protection Agency (EPA), nearly one ton of greenhouse gas emissions are avoided for every ton of solid waste processed at an EfW facility.





# Thank You!





