

HOW TOMORROW MOVES



Imagine the result



CONFLAGRATION, COLLABORATION, AND CORRECTIVE ACTION

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HOW TOMORROW MOVES





THE “TRACK” TO A SUCCESSFUL PROJECT



TECHNICAL EXPERTISE

RAPID RESPONSE

ALIGNMENT WITH CSX
CORE VALUES

COLLABORATION

KEPT H&S FIRST



THE CHAIN OF EVENTS

At approximately 1400 hours on May 28, 2013, CSXT Train Q40927 was traveling westbound approaching an at-grade crossing, near the intersection of 68th Street and Lake Drive in Rosedale, MD. A roll-off truck, exiting a private business located just south of the tracks was traveling north toward the same crossing.



THE IMPACT

LAKE DRIVE, ROSEDALE, MARYLAND



THE EFFECTS



THE CHALLENGE / CORRECTIVE ACTIONS

- Public & Worker Safety
 - Air Monitoring
- Sodium chlorate impacted soil and debris = potentially large volume of hazardous waste
- Release to surface water
- Restoration of rail service
- Stakeholder concerns
 - NTSB
 - Local Businesses
 - Environmental Regulatory Agencies
- Defining and controlling the hazard
- Hazard elimination/risk management

HAZARDOUS WASTE

FEDERAL LAW PROHIBITS IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST POLICE, OR
PUBLIC SAFETY AUTHORITY, OR THE
U.S. ENVIRONMENTAL PROTECTION AGENCY

Waste Sodium chlorate Mixture,
PROPER D.O.T. SHIPING NAME: 5.1, RO, II, D001, D003 OR NA# 1495

GENERATOR INFORMATION:
NAME: CSX Transportation, Inc
ADDRESS: Lake Dr Development
CITY: Rosedale STATE: MD ZIP: 21237
EPA ID NO: MDP000017393 EPA WASTE NO.: D001, D003
ACCUMULATION START DATE: 5/31/13 MANIFEST DOCUMENT NO.: 046

HANDLE WITH CARE!
CONTAINS HAZARDOUS OR TOXIC WASTES

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COLLABORATION

CSXT

HAZMAT, Claims, L.E.A.D.S.,
Asset Recovery,
Environmental Remediation,
Engineering, Field Services,
and Train Control Divisions



Consultants



Geosyntec
consultants
engineers | scientists | innovators



Regulatory Agencies



Local Agencies



Contractors



HULCHER SERVICES
ON TIME. ON TARGET. WITHIN BUDGET.



PROTECTING FIRST RESPONDERS / PUBLIC DURING THE INCIDENT & RESPONSE



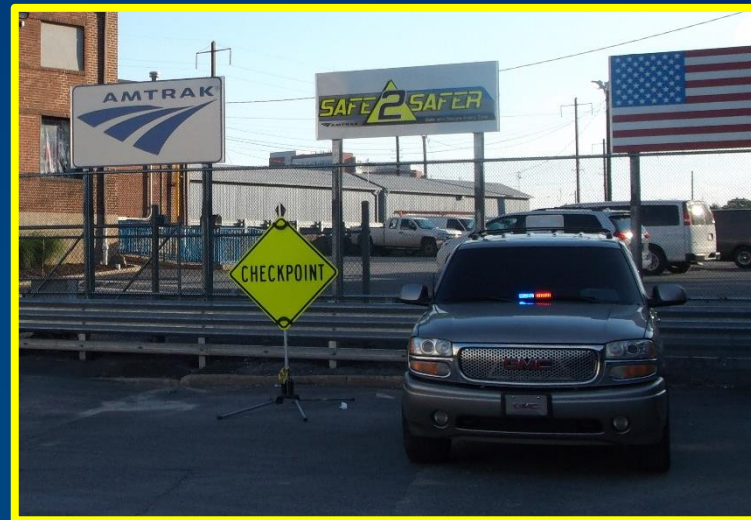
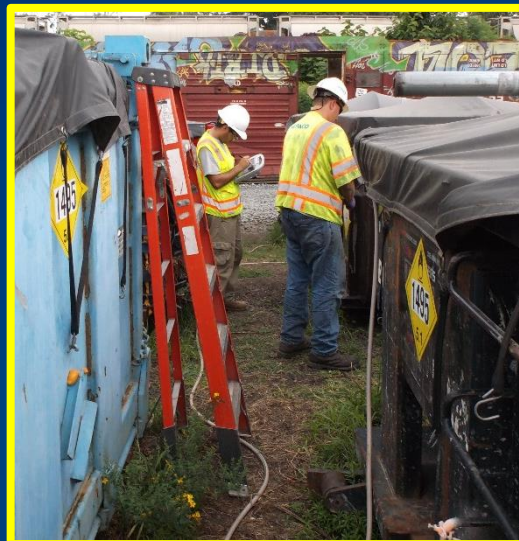
PROTECTING THE ENVIRONMENT



MINIMIZING RISK TO THE PUBLIC



PROTECTING OUR WORKERS AND THE PUBLIC DURING WASTE MANAGEMENT AND TREATMENT



KEY CHALLENGE

- 135 roll-off containers of soil, ballast and debris generated from derailment response potentially contaminated with sodium chlorate & purified terephthalic acid (PTA) requiring disposal
 - **Sodium Chlorate = strong oxidizer prone to self-ignition in the presence of organic material**
 - **PTA = organic material**

MATERIAL SAFETY DATA SHEET
 Eka Chemicals Inc. 

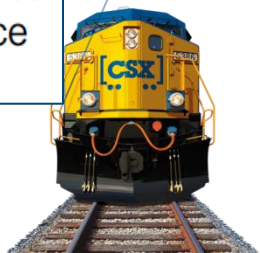
1. Chemical Product and Company Identification

Eka Chemicals Inc., Pulping Paper North America 1000 Parkway Plaza, Suite 1200 Memphis, TN 38117 US (770) 470-8888	SODIUM CHLORATE CRYSTAL CAS Number: Synonyms: Chlorate salt, Chlorate salt UN 1918 3119-08-0 Synonyms: Sodium Chlorate, Pot. Chlorate Crystals, Triclorate Chlorate Crystals Chemical Type: Sodium chlorate crystal Hazardous Code: Oxidizing agent, solid primary for producing chlorine dioxide and for paper and bleaching. Used as a defoliant, herbicide and in various soil treatments.
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2. Hazards Identification

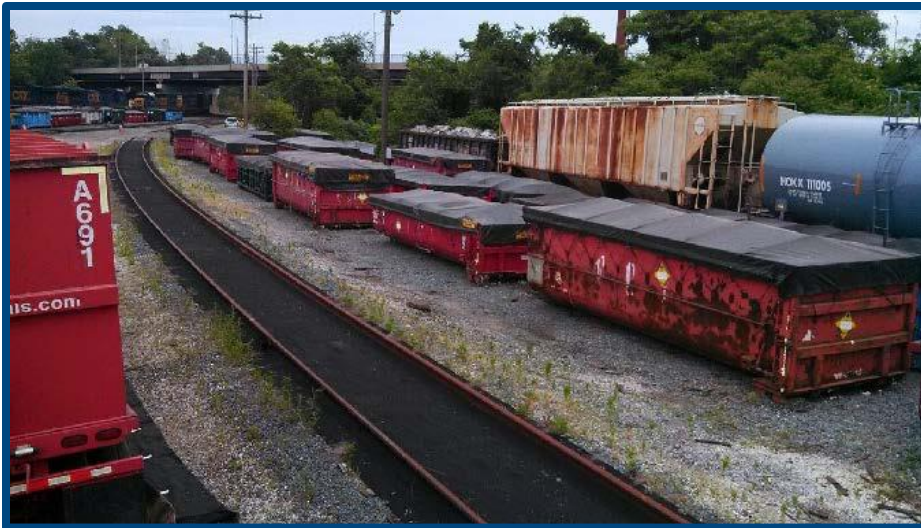
Shipping Name:	Sodium Chlorate, 5 units to shipping placards (see below). This material may contain an oxidizing liquid.
Routes of Exposure:	See general comment, Section 10 (see below)
Potential Health Effects:	
Aspiration:	This product is harmful if swallowed. Large amounts may be fatal. Aspiration of this product may cause localized irritation and burning. May cause difficulty in breathing and pulmonary edema. Irritation of the skin and eyes may occur if not washed off immediately.
Skin:	Refrigerated vapors may cause irritation.
Eyes:	This product is irritating to the eyes. May cause temporary blindness if contact occurs.
Ingestion:	Swallowing of this product may cause irritation of the mouth, throat, and respiratory tract. High concentrations may be fatal.
Swallowing:	Chemicals can only cause injury, damage, loss, damage and/or health problems. Chemicals can only cause injury through direct contact and/or inhalation.
Chemical Effects:	Not listed as a possible carcinogen by OSHA, IARC or NTP. See Section 10 for more information concerning effects of sodium chlorate. See general comment for more information on the possible long-term effects of sodium chlorate. Hazardous in contact with acids.

swallowed. Oxidizer: accelerates combustion of organic materials (wood, paper, oil, clothing). High heat (265 C / 510 F) may cause violent decomposition. Mixing with acids may produce toxic and explosive chlorine dioxide and chlorine gas. Harmful if swallowed. Oxidizer: Accelerates combustion of organic materials (wood, paper, oil, clothing). Explosive: High heat (265 C/ 510 F) may cause violent decomposition. Reactivity: Mixing with acids may produce toxic and explosive chlorine dioxide and chlorine gas.



KEY CHALLENGE DEFINED

How to characterize, manage and dispose of sodium chlorate impacted soil, ballast and debris in a manner providing maximum safety in a compliant and cost effective manner?



SOLUTION SELECTION

- Developed White Paper/Waste Treatment Plan
- Agency Engagement
 - Early involvement, review and approval
- Treatability Studies Completed
- Cost evaluation
- Secured internal and external concurrence that on-site deactivation was preferred alternative
- Temporary treatment permit issued by MDE
- On-site treatment option selected and effectively implemented
- Analytical Method – Burn-rate test approved as measurement of compliance



SUSTAINABILITY & COST SAVINGS

- De-characterized (neutralized) hazardous material 50% faster than planned and disposed as a non-hazardous waste
- Used local, non-haz landfill (as opposed to haz landfill) avoided 81,000 transportation miles
- Avoided >136 tons of CO2 emissions
- Significant cost savings were realized (>\$30K) by purchasing polyethylene glycol (PEG) from a smaller local vendor
- Collaboration with local lab (ALS) resulted in a \$1,000 per sample cost savings
- Overall estimated cost savings to CSXT for solution was >\$2M
- Restored Lake Drive Site within 9 days of the incident





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