



Allen, Pam, NMENV

From: Maestas, Ricardo, NMENV
Sent: Thursday, December 18, 2014 9:42 AM
To: Allen, Pam, NMENV
Subject: FW: Info
Attachments: For Trais .docx

-----Original Message-----

From: Kliphuis, Trais, NMENV
Sent: Tuesday, May 27, 2014 8:01 AM
To: Maestas, Ricardo, NMENV; Smith, Coleman, NMENV; Holmes, Steve, NMENV
Cc: Kendall, Jeff, NMENV
Subject: FW: Info

I'm not sure if I sent this on already. Apologies if I already did.

*Trais Kliphuis
WIPP Staff Manager
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive E, Building 1
Santa Fe, New Mexico 87505*

*Office: 505-476-6051
Front Desk: 505-476-6000*

-----Original Message-----

From: Basabilvazo, George - DOE [<mailto:George.Basabilvazo@wipp.ws>]
Sent: Thursday, May 22, 2014 8:55 PM
To: Kliphuis, Trais, NMENV
Subject: Info

Trais,

Attached is information that Joe Franco asked me to provide earlier today and I got distracted, my apologies. Joe will send to Secretary Flynn .

*Best regards,
George*

Sent with Good (www.good.com)



LANL Waste containing Nitrate Salts

As a result of the on-going investigation and the questions raised in a review of the LANL Acceptable Knowledge, Summary Category 3000 and certain debris waste streams with nitrated salts are being evaluated for risk. Based on the limited information currently available, the three waste streams of concern, LA-MIN02-V.001, LA-MHD01.001 and LA-CIN01.001 represent varying levels of risk. The highest risk is the drums of LA-MIN02.001 in which the parent drum had a very low pH, organic absorbents and nitrated salts. Currently there is one parent drum of concern in this highest risk category, and a sibling from that parent, that warrant additional monitoring and isolation. LANL is continuing to evaluate packaging records for any additional parent drums in this category. The sub-population LA-MIN02.001 and LA-MHD01.001 drums which have the potential of containing organics, slightly higher pH and nitrated salts represent a medium risk and warrant inspection and monitoring but no further action. This category also includes parent drums with very low pH that have daughters previously disposed in Panel 6. With the passage of time, the opportunity for energetic events is reduced. Finally, the remaining drums, LA-CIN01.001, represent very little risk due to the waste form and warrant no action at this time.

The breached container identified during the 05-15-2014 Panel 7 entry is one of two containers, LA00000068333 or LA00000068660. Of these two containers, LA00000068660 is the daughter of a parent container that was identified with a pH of zero. The presence of such a low pH liquid in combination with an organic absorbent presents a credible scenario for a chemical reaction that could have resulted with the breach of the container in Panel 7 and is considered the primary risk associated with nitrate salt waste. LA00000068660 has a sister container from the same parent currently located at LANL, LA00000068685. This container has been segregated as a result of the potential it poses. LANL is currently performing tests to identify hazards associated with this waste form.

Containers from the LA-MIN02-V.001 waste stream that contain nitrate salts present the next level of risk. Organic absorbent has been mixed with the nitrate salts, and in some cases free liquids have been removed from the waste, neutralized to a more neutral pH than when it was decanted, and then absorbed with organic absorbent. Monitoring and testing of accessible containers has not resulted in the identification of a container that exhibits evidence of an abnormal condition being present within the container.

Individual containers in the LA-MHD01.001 contain small quantities of nitrate salt mixed with organic absorbent. These containers present a similar risk as those in the LA-MIN02-V.001 waste stream. Only a small sub-set of the waste stream population have Nitrate Salts within the waste matrix, this is traceable by tracking the generator waste packaging records to the parent container.

Waste stream LA-CIN01.001 presents the lowest risk. This waste form is cemented using Portland or gypsum cement. The nitrate salts in this waste stream are encased/bound in an inorganic matrix, which removes the potential for hazardous conditions. The performance of Real-Time-Radiography verifies the cemented waste stream description to ensure proper assignment to the LA-CIN.01.001 waste stream.

LANL Waste containing Nitrate Salts

Waste Stream descriptions from CCP-AK-LANL-006 Rev.13:

LA-MIN.02-V.001 (CCP-AK-LANL-006 Rev. 13, pg. 24)

"Waste stream LA-MIN02-V.001 consists primarily of inorganic particulate waste generated in TA-55. The waste is largely comprised of TRU waste such as liquids and solids absorbed or mixed with absorbent (e.g., Ascarite II, [sodium hydroxide coated silicate], diatomaceous earth [silica and quartz], kitty litter [clay], vermiculite [hydrated magnesium-aluminum-iron silicate], and/or zeolite [aluminosilicate mineral]). Examples of absorbed liquids include acids (e.g., hydrochloric acid, hydrofluoric acid, and nitric acid); carbon tetrachloride; ethylene glycol; kerosene; methanol; methylene chloride; silicone based liquids (e.g., silicone oil); tetrachloroethylene; tributyl phosphate; trichloroethylene; and various types of oils including hydraulic, vacuum pump, grinding, and lapping (mixture of mineral oil and lard). Solids mixed with absorbents are typically evaporator salts (i.e., nitrate salts). The waste is also expected to contain heavy metals such as cadmium, chromium, and lead. Liquids and solids not absorbed or mixed with absorbent are often cemented and disposed of separately in waste stream LA-CIN01.001..."

LA-MHD.01.001 (CCP-AK-LANL-006 Rev. 13, pg. 19-20)

"Waste stream LA-MHD01.001 consists of mixed heterogeneous debris waste generated in TA-55. The debris waste includes paper, rags, plastic, rubber, wood-based high-efficiency particulate air (HEPA) filters, other plastic-based and cellulose-based items (e.g., personal protective equipment [PPE]), noncombustible items (e.g., metal and glass), and lesser quantities of homogeneous solids (less than 50 percent by volume) contaminated with nuclear materials (e.g., americium oxide)..." "...Homogeneous solid waste (less than 50 percent by volume) includes: hydroxide cake/filter materials, salts, and ash residues. Hydroxide cake/filter materials are composed of precipitated materials such as americium cadmium, calcium, chromium, iron, lead, magnesium, mercury, neptunium, plutonium potassium, silver, sodium hydroxide, thorium, and uranium. Salt waste can include varying mixtures of calcium chloride, cesium chloride, lithium chloride, magnesium chloride, potassium chloride, sodium chloride, zinc chloride, residual entrained calcium and zinc metal, and various plutonium and americium compounds..."

LA-CIN.01.001 (CCP-AK-LANL-006 Rev. 13, pg. 22)

"Waste stream LA-CIN01.001 consists primarily of inorganic homogeneous solid waste (cemented TRU waste) generated in TA-55. The waste includes materials encased in Portland or gypsum cement such as aqueous and organic liquids from the six operational areas (e.g. nitrate operations), ash, calcium chloride salts, chloride solutions, evaporator bottoms and salts, filter aid, filter cakes (e.g., hydroxide cake), plutonium/uranium filings and fines, glovebox sweepings, graphite powder, HEPA filter media, leached ash residues, leached particulate solids (e.g., ash, sand, slag, and crucible parts), oxides (e.g., americium, metal, and uranium), miscellaneous oils (e.g., pump oil), silica solids, solvents, spent ion exchange resins, trioctyl phosphineoxide and iodine in kerosene, and uranium solutions..."

LANL Waste containing Nitrate Salts

Locations of known and suspect Nitrate salt containers

Panel 7, Room 7

Nitrate Salt Waste

LA-MIN.02-V.001 - 55 containers*

LA-MHD.01.001 - 0 containers

*Containers are in 54 - 55gal drums and 1- 55gal overpacked 1- SWB

Cemented Nitrate Solutions

LA-CIN.01.001 - 0 containers

Panel 6, Room 1

Nitrate Salt Waste

LA-MIN.02-V.001 - 222 containers*

LA-MHD.01.001 - 2 containers*

*Containers are in 198 - 55gal drums and 24 -55gal overpacked 11- SWBs

Cemented Nitrate Solutions

LA-CIN.01.001 - 24 containers

Panel 6, Room 2

Nitrate Salt Waste

LA-MIN.02-V.001 - 91 containers*

LA-MHD.01.001 - 24 containers*

*Containers are in 88 - 55gal drums and 27- 55gal overpacked 14 - SWBs

Cemented Nitrate Solutions

LA-CIN.01.001 - 55 containers

Panel 6, Room 3

Nitrate Salt Waste

LA-MIN.02-V.001 - 0 containers

LA-MHD.01.001 - 38 containers*

*Containers are in 21 - 55gal drums and 17 - 55gal overpacked 10 - SWBs

Cemented Nitrate Solutions

LA-CIN.01.001 - 2 containers

Panel 6, Room 4

Nitrate Salt Waste

LA-MIN.02-V.001 - 0 containers

LA-MHD.01.001 - 0 containers

Cemented Nitrate Solutions

LANL Waste containing Nitrate Salts

LA-CIN.01.001 - 3 containers

WIPP Waste Handling Building

Nitrate Salt Waste

LA-MIN.02-V.001 - 0 containers

LA-MHD.01.001 - 0 containers (1 drum – no Nitrate Salts)

Cemented Nitrate Solutions

LA-CIN.01.001 - 0 containers

WCS

Nitrate Salt Waste

LA-MIN.02-V.001 - 119 containers*

LA-MHD.01.001 - 1 containers*

*All Containers are overpacked into 73 SWBs

Cemented Nitrate Solutions

LA-CIN.01.001 - 3 containers