



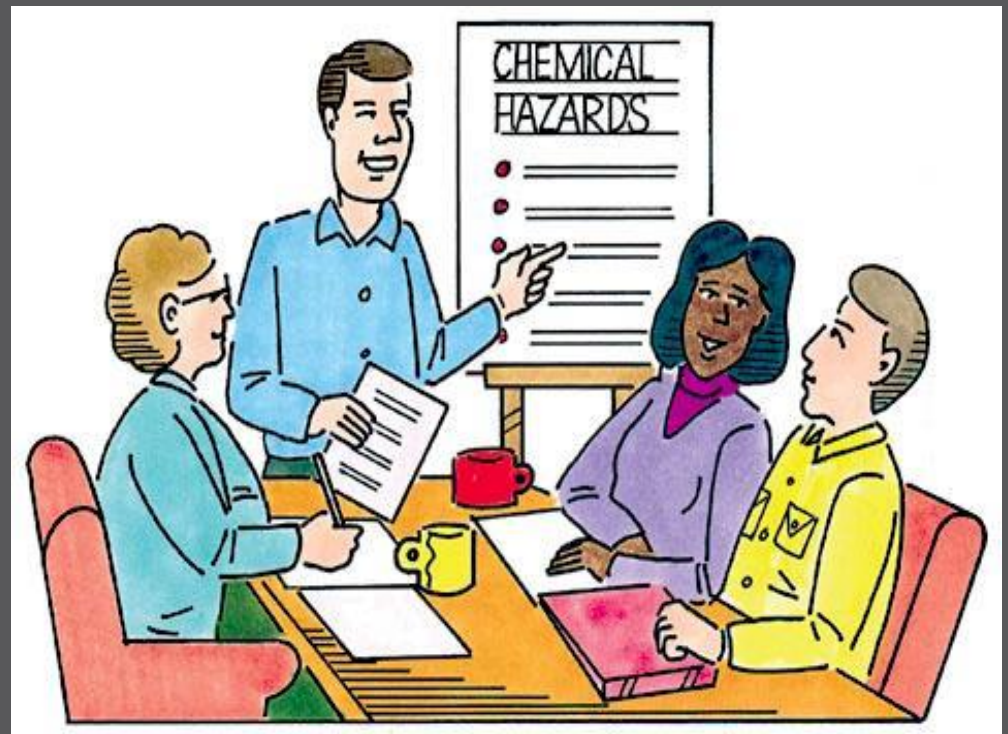
# HAZCAT TRAINING 2023



# AGENDA



1. *Introductions*
2. *2022 Review / Updates*
3. *Lab Pack Review*
4. *Wrap Up / Questions*



# Veolia Contact List

## **Duane Aldridge Business Unit / Operations Manager**

- Direct 763-283-5318
- Cell: 612-328-0930

## **Alex Nipp Account Manager**

- Cell: 612-760-0043
- HHW Regional Programs: Blue Earth, Brown, Fillmore, Freeborn, Kandiyohi, Lyon, McLeod, Mower, Olmsted, Rice, Winona, Wright, and Metro Counties: Carver, Dakota, Ramsey, and Scott.

## **Aaron Uecker Account Manager**

- Cell: 763-274-9232
- HHW Regional Programs: Becker, Chisago, Clay, Crow Wing, Kanabec, Morrison, NWJP, Ottertail, Pine, Sherburne, St. Louis, Stearns, Todd, WLSSD, and Metro Counties: Anoka, Hennepin,

## **Justin Gengler Project Manager/Scheduling**

- Direct 763-283-5311
- Cell 612-282-2025

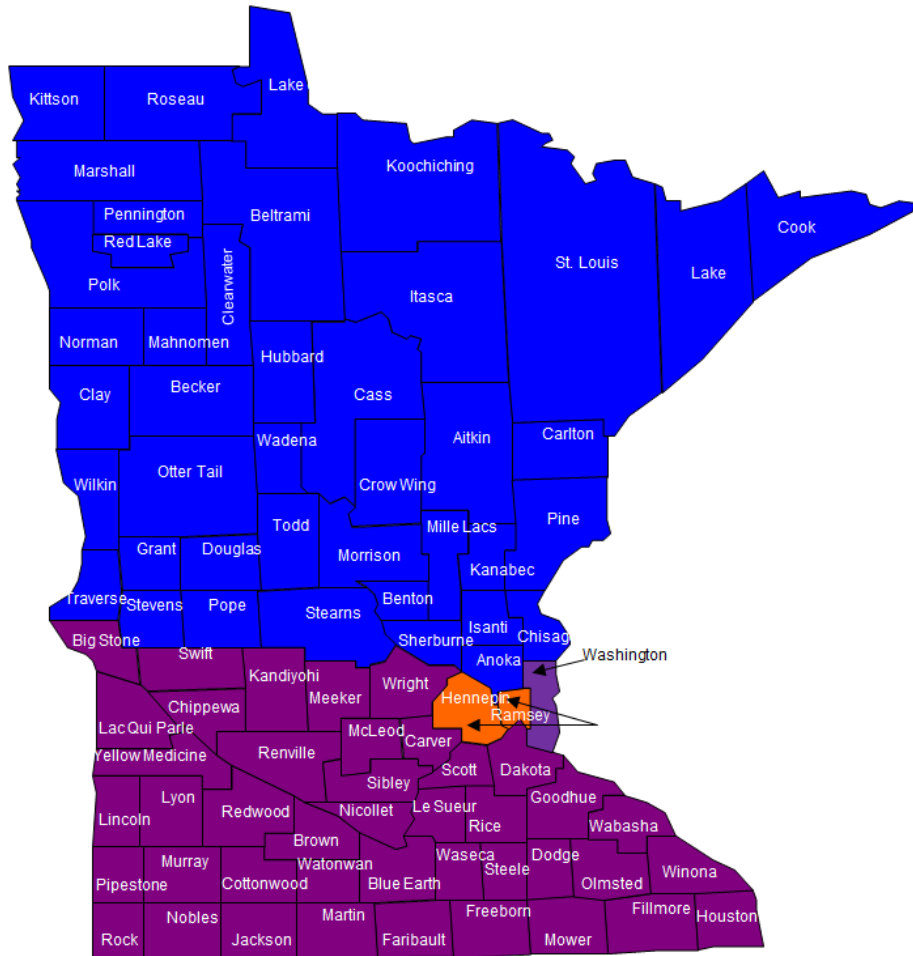
## **Dawn McFarland Accounting Coordinator / Invoicing**

- Direct: 763-283-5310



# Veolia Sales Contacts

## Minnesota



Northern MN

**Aaron Uecker**

[Aaron.Uecker@Veolia.com](mailto:Aaron.Uecker@Veolia.com)

Cell 763-274-9232

Metro and Southern MN

**Alex Nipp**

[Alexander.nipp@Veolia.com](mailto:Alexander.nipp@Veolia.com)

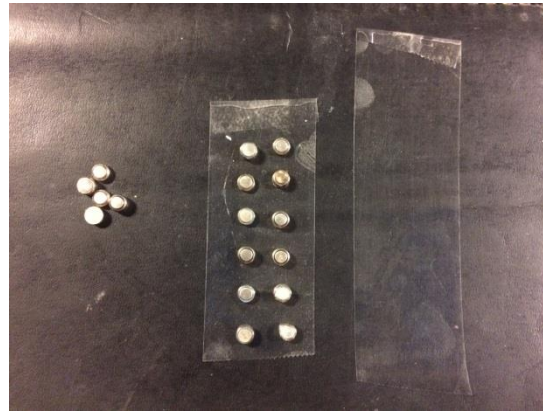
Cell 612-760-0043



# Safety Moment, Lithium battery fire



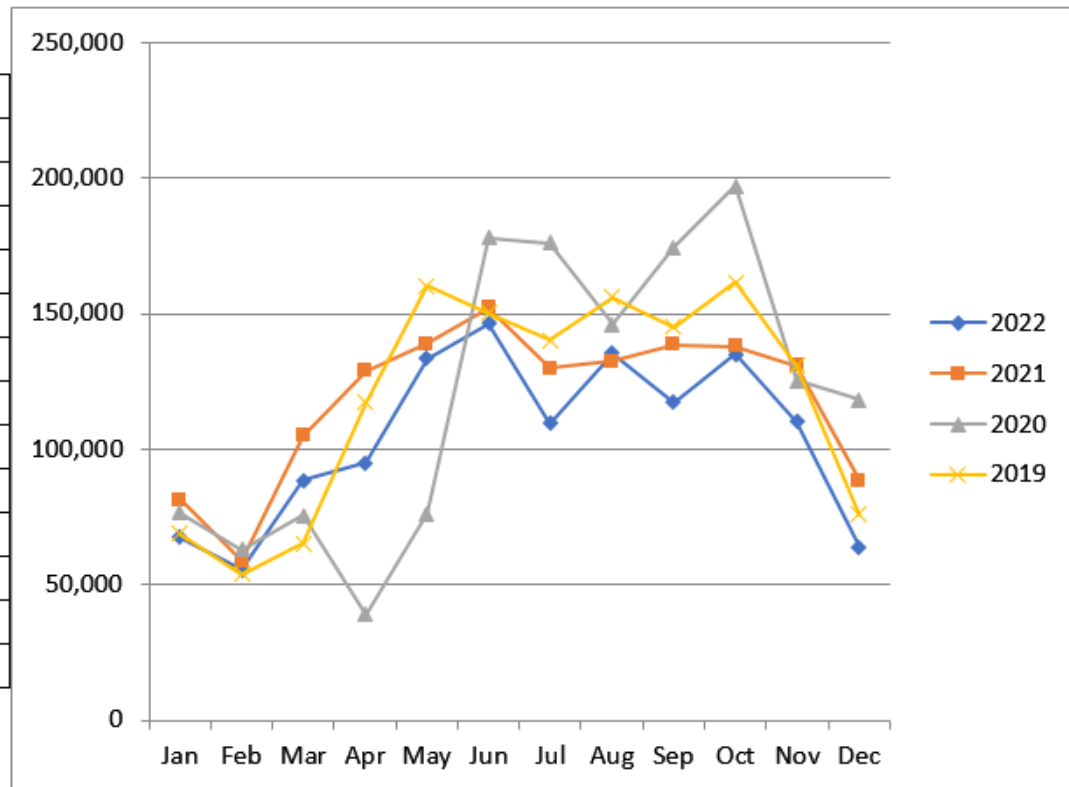
# Battery Terminal Protection



# Latex Volumes

## Receiving

	2022	2021	2020	2019
Jan	67,461	81,207	76,656	68,602
Feb	55,361	58,857	62,781	53,767
Mar	88,343	105,051	75,661	65,357
Apr	94,845	128,953	39,166	117,102
May	133,375	138,783	76,100	160,184
Jun	146,392	152,094	178,080	150,219
Jul	109,519	129,908	176,090	140,113
Aug	135,253	132,268	145,843	155,923
Sep	117,217	138,523	174,393	144,946
Oct	135,094	137,968	197,113	161,386
Nov	110,212	130,801	125,348	130,905
Dec	63,777	88,485	118,244	75,916
	1,256,849	1,422,898	1,445,475	1,424,420



# Storage On-Site

- **Container Integrity**
- **Closure Instructions**
- **Labeling**
- **Aisle Space**

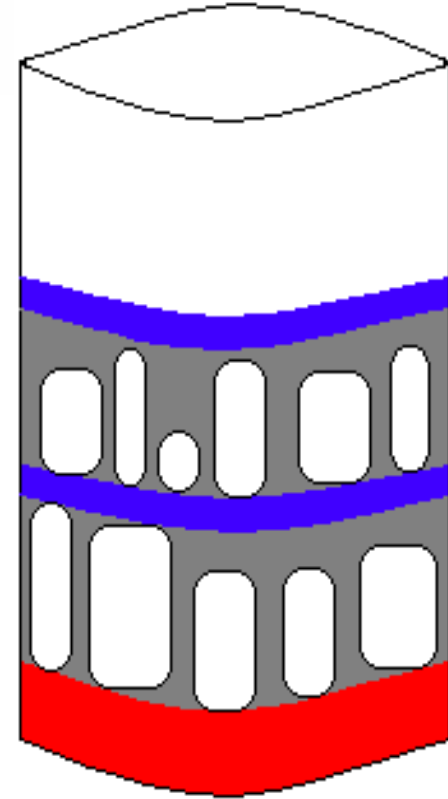




# Packaging Review

## Packaging Requirements:

- **Each drum may only contain one class of hazardous material (49 CFR 173.12(b)(2)(iii))**
- **Each drum may only contain chemically compatible materials within the same hazard class (49 CFR 173.12(b)(1))**
- Inner containers may not exceed the following
  - **Glass** **1 Gallon (4L)**
  - **Metal/Plastic** **5 Gallon (20L)**
- Place in a plastic drum liner
- Outer container must be DOT approved
- Place 2-3 inches of absorbent material on the bottom of drum
- Fill the drum with alternating layers of inner containers and absorbent
- Top off the drum with 2-3 inches of absorbent
- Secure the lid



# Proper Packing of Waste Materials

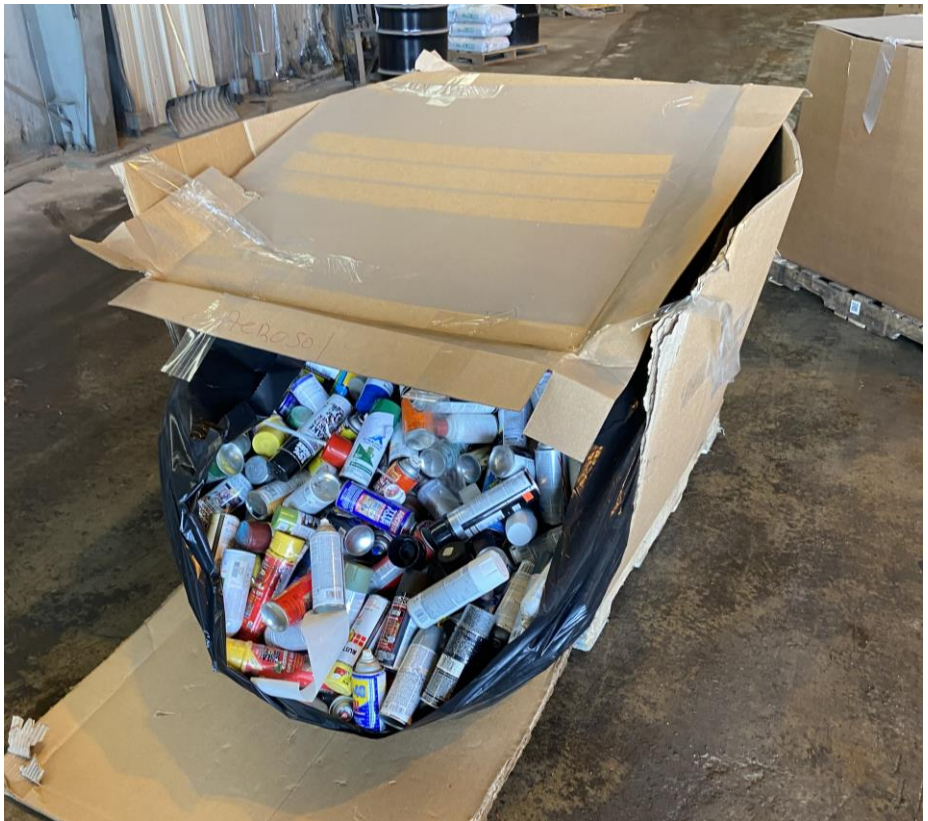


## **Proper Packing:**

- Packing Media should be used when applicable
- Waste must be properly segregated or profiled
- Waste should be packed with intact containers only
  - Use bags or other means to ensure containers do not leak
- Containers should be packed upright
- Proper outer container must be selected.







# Container Selection

## Packaging Options:



NORTH AMERICA

[www.VeoliaES.com](http://www.VeoliaES.com)

# *Reading a Typical UN Code*

<sup>U</sup><sub>N</sub> **1** **A** **1** / **X** **1.5** / **250** / **91** **USA** **TD**



## **Container Material**

*A - Steel*

*B - Aluminum*

*C - Natural Wood*

*D - Plywood*

*F - Reconstituted Wood*

*G - Fiberboard*

*H - Plastic Material*

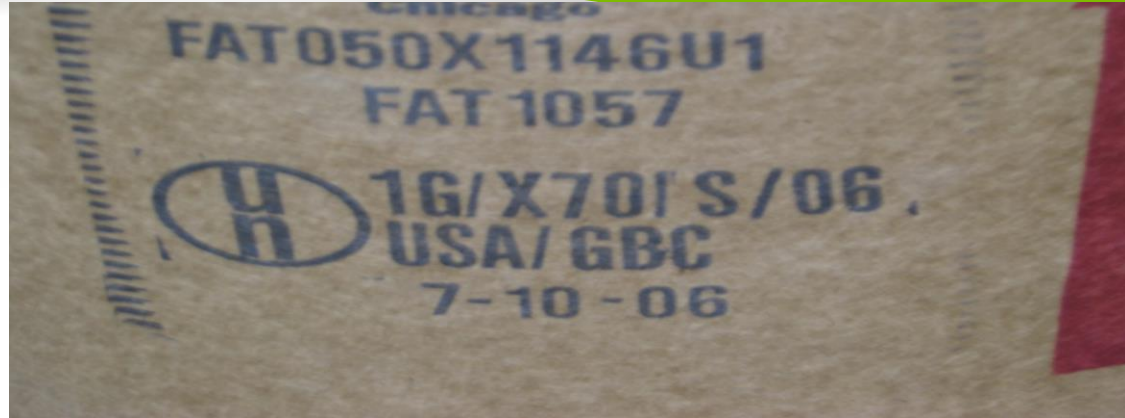
*L - Textile*

*M - Paper, Multiwall*

*P - Glass, Porcelain, or  
Stoneware*

# UN Spec Containers

## UN Specifications



**1G** = Fiberboard box

**X** = Packing Group I

**Y** = Packing Group II or III

**Z** = Packing Group III

**70** = Max Weight in Kilograms

**S** = Solids or Inner packagings (labpacks)  
For Liquids, it will be the Relative Density

**06** = Year Manufactured

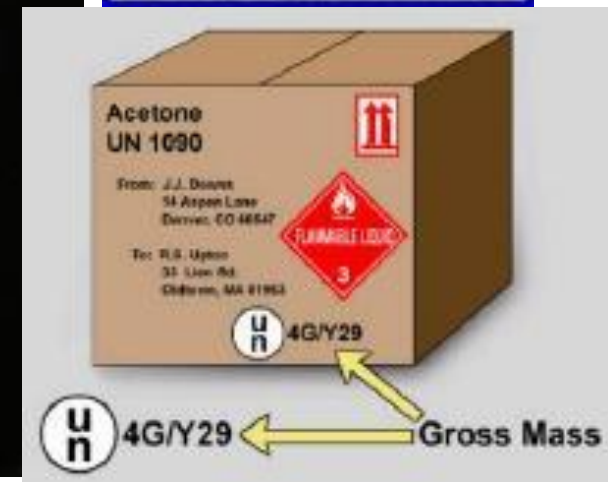
**USA** = Country it was manufactured

**GBC** = Manufacturer's Company Code

**NORTH AMERICA**

# Lab Pack Review

## 49 CFR Part 178 - SPECIFICATIONS FOR PACKAGINGS





# Lab Pack Review



1H2/Y30/S/06/USA/M2074



1G/X70/S/06/USA/GBC

UN1415, Waste Lithium, 4.3, I

NORTH AMERICA

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 **VEOLIA**  
ENVIRONMENTAL  
SERVICES

# Explosives

- An Explosive is any chemical compound, mixture, or device which is designed to function by explosion that is substantially instantaneous with the release of gas and heat. Exception--such compound, mixture, or device which is otherwise specifically classified in Parts.



Trinitrotoluene

Urea Nitrate

Trinitrobenzene

Picric Acid

Octonol

Nitroglycerin

# Class 1 - Explosives



- Division 1.1**      **Mass explosion hazard**
- Division 1.2**      **Projection hazard**
- Division 1.3**      **Fire hazard and either a  
minor blast hazard or  
minor projection hazard**
- Division 1.4**      **Minor explosion hazard**
- Division 1.5**      **Insensitive explosive  
substances with a mass  
explosion hazard**
- Division 1.6**      **Extremely insensitive  
articles**



# Class 1 – Explosives



- **Include black powder, fireworks, blasting caps, marine flares, & ammunition.**
- **All explosives require permission from DOT to ship – specific to manufacturer & item. This is called an EX number.**
- **Some explosives can be shipped as flammable solids (black powder) with specific packing requirements.**
- **Lab Pack Inventory Required.**



# Class 1 – Ammunition

SHIPPING DESCRIPTION: **UN0012, Waste Cartridges, Small Arms, 1.4S Limited Quantity**

EPA WASTE CODES: D003, D001, D008

## **REQUIREMENTS:**

- **Inventory Required**
- Net Explosive Weight (NEW) Required
- Drum Cannot Exceed 66 lbs.
- Use 8 - 10 gallon Metal drums
- Use floor dry as packing media.
- NEW must be written on each drum



# Class 1. Ammunition



# Class 1 – Ammunition



Contact Veolia for Additional Resources

## HUNTING WITH THE RIGHT CALIBER



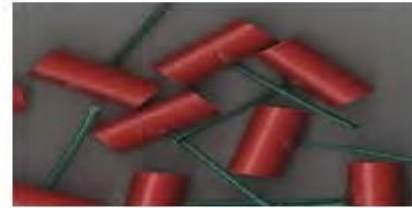
	A	B	C	D	E	F
1	Calber	Addl. Description			Qty	N.E.W.
2	22	RIMFIRE/LONG RIFLE	0.0003 LBS,		0	0
3	22	HORNET	0.0019 LBS,		0	0
4	218	BEE	0.002002 LBS,		0	0
5	222	REMINGTON	0.003576 LBS,		0	0
6	223	REMINGTON	0.004005 LBS,		0	0
7	224	WEATHERBY	0.005078 LBS,		0	0
8	22-250	REMINGTON	0.00615 LBS,		0	0
9	220	SWIFT	0.006579 LBS,		0	0
10	6MM		0.004434 LBS,		0	0
11	243	REMINGTON	0.006937 LBS,		0	0
12	6MM		0.007294 LBS,		0	0
13	257	ROBERTS	0.007437 LBS,		0	0
14	25/06		0.009154 LBS,		0	0
15	240	WEATHERBY	0.008151 LBS,		0	0
16	257	WEATHERBY	0.001173 LBS,		0	0
17	6.5X55	SWEDISH	0.007437 LBS,		0	0
18	264	WINCHESTER	0.0187 LBS,		0	0
19	270	WINCHESTER	0.009154 LBS,		0	0
20	280		0.009011 LBS,		0	0
21	284	WINCHESTER	0.008439 LBS,		0	0
22	7MM	REMINGTON	0.011299 LBS,		0	0
23	7.5	SWISS	0.007437 LBS,		0	0
24	7.62	NATO	0.0068 LBS,		0	0
25	0.3	CARBINE	0.002288 LBS,		0	0
26	30/30	WINCHESTER	0.005864 LBS,		0	0
27	30/40	KRAG	0.007151 LBS,		0	0

# Class 1 - Explosives





# Class 1. Explosives



# Class 1 - Explosives



## • MN DUTY OFFICER

**BCA Operations Center**

**651-649-5451 &**

**1-800-422-0798**

**TDD: 1-800-627-3529**

**Satellite: 1-254-543-6490**

**Fax: 651-296-2300**



## Agency Resources Available:

**State Agencies**

**MN Arson Hotline**

**Emergency Response**

**Amateur Radio (ARES/RACES)**

**MN Voluntary Organizations**

**Fire chiefs assistance teams**

**Search-and-rescue dogs**

**U.S. Air Force Search and Rescue**

**Local bomb squads**

**Chemical assessment teams**

**Fire and rescue mutual aid**

**Interagency Fire Center**

# Compressed Gases

- Pressurized container
- Pressure = rocket potential
- Gas hazards: flammable, corrosive, toxic, reactive
- Potential to asphyxiate workers
- Store upright in gas cabinet, chemical fume hood, or secured to a wall
- Segregated from other gases and use in ventilated area



Acetylene

Propane

Methane

Chlorine

# Class 2 - Gasses



## □ Division 2.1

→ Flammable Gas

## □ Division 2.2

→ Non-Flammable,

→ Non-Poisonous  
Compressed Gas

## □ Division 2.3

→ Toxic Gas

→ Hazard Zones A-D



# Class 2.1 - Flammable Gas



## Aerosols (CWDHHWAERO) \*FOAM Separately\*

SHIPPING DESCRIPTION: **UN1950, Waste Aerosols, Flammable, 2.1, Limited Quantity**

### For 5-55 gallon drum shipments:

EPA WASTE CODES: D001

- Must have protective caps or valve stems removed to prevent accidental discharge.
- Must not exceed 1 liter capacity.
- No packing media required.
- No inventories required.
- Must be packaged in non-bulk strong outer packaging, 5 through 55 gal UN1A2(metal with vented bung) or UN1G, (fiber) drums, or 4G boxes. **(NO POLY DRUMS.)**



# Class 2.1 - Flammable Gas



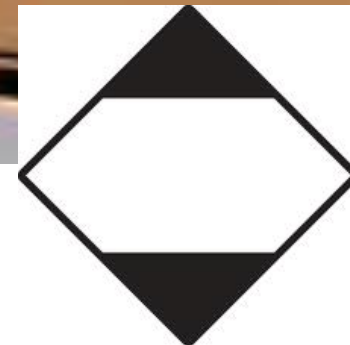
## Aerosols (CWDHHWAERO)

SHIPPING DESCRIPTION: **UN1950, Waste Aerosols, Flammable, 2.1, Limited Quantity**

### For Cubic Yard Boxes (IBC):

EPA WASTE CODES: D001

- Must have protective caps or valve stems removed to prevent accidental discharge.
- Must not exceed 1 liter capacity.
- No packing media required.
- No inventories required.
- Must be packaged in strong outer container in good condition.
- UN SPEC Box is not required.
- Gross mass must be less than **1,100 pounds.**



# FOAMING AEROSOLS

## Foam Aerosols (PTAVES005)

SHIPPING DESCRIPTION: **UN1950, Waste Aerosols, Flammable, 2.1, Limited Quantity**

**For 5-55 gallon drum shipments:**

EPA WASTE CODES: D001

- Must have protective caps or valve stems removed to prevent accidental discharge
- Must not exceed 1 liter capacity
- No irritant sprays (Pepper Spray)
- No inventories or packing media required
- Must be packaged in non-bulk strong outer packaging, 5 through 55 gal UN1A2(metal with vented bung) or UN1G (fiber) drums, or 4G Fiber Box **(NO POLY DRUMS)**



# Aerosols Valve Stem \*Reminder\*

- Aerosol valve stems must be clipped, removed, or have a protective cap in place.





# Aerosol Valve Reminder

- Valve Stem that does not need to be clipped.
- There is a metal pin seen in the trigger which engages the system at the base of the can. Once the trigger is removed, the valve stem is protected.



# Class 2.1 Aerosols



# Class 2.1 - Flammable Gas



## PROPANE

SHIPPING DESCRIPTION:  
**UN1978, Propane, 2.1**

- EPA WASTE CODES: None for recycle

### REQUIREMENTS:

- Must be packed separately.
- Cylinder size & count required
- (i.e., three 20 pound cylinders).



# Class 2.1 - Flammable Gas



## LIGHTERS

SHIPPING DESCRIPTION:

**UN1057, Waste Lighters containing flammable gas, 2.1 – DOT-SP-13179** will be required.

- Must be packed separately.
- Pack into a 8 gal (1A2) metal drum.
- Packing media (vermiculite or floor dry) is required.



**- Lighter Refills must be packed separately from lighters.**



# Class 2.1 Flammable Cylinders



# Class 2.2 Non-Flammable Gas

## Pepper Spray (WIP Specific)

SHIPPING DESCRIPTION: **UN1950, AEROSOLS, NON-FLAMMABLE, (EACH NOT EXCEEDING 1 L CAPACITY), 2.2, Limited Quantity**

**For 5 Gallon Only:**

EPA WASTE CODES: None

- Limit 3 Pepper Irritant Spray Cans Per Drum
- Inventories required
- Must be packaged in 5 gallon Poly or Fiber drums only.
- Processing Facilities do not allow irritant gasses to be fuel blended due to H&S practices at the end site.
- Priced as Special Cylinders for Incineration



# Class 2.2 - Non-Flammable Gas



## **SHIPPING DESCRIPTION:**

UN1046, Helium, compressed, 2.2

EPA WASTE CODES: NONE

## **REQUIREMENTS:**

- Must be packed separately.
- Cylinder size & count required.



## **SHIPPING DESCRIPTION:**

UN1018, Chlorodifluoromethane *or* Refrigerant Gas R 22, 2.2

EPA WASTE CODES: NONE

## **REQUIREMENTS:**

- Must be packed separately.
- Cylinder size & count required.



# Class 2.2 – Reminder Foam Cylinders



## **SHIPPING DESCRIPTION:**

UN1956, Compressed Gasses, n.o.s.

EPA WASTE CODES: None

## **REQUIREMENTS:**

- Must be packed separately.
- Cylinder size & count required.
- Expensive to Dispose

## **SHIPPING DESCRIPTION:**

Non-Regulated Non-DOT Material

EPA WASTE CODES: NONE

## **REQUIREMENTS:**

- Must be packed separately.
- Cylinder size & count required.
- DOT Cylinder Questionnaire Required.





# Class 2.2 – Cylinder Questionnaire

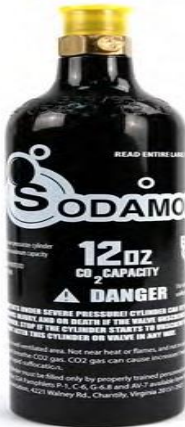


## Cylinder Questionnaire:



Cylinder Contents	Mfg. Label?	Cylinder ID No.(s)	Total # of Cylinders	Cylinder Diameter	Cylinder Length	Cylinder: External Condition (Circle One)		DOT Spec.	Cylinder Valve: External Condition (Circle One)		Pressure Relief Device (Circle all that apply)	
						Excellent	Good		Fair	Poor	Excellent	Good
	YES					Excellent	Good		Excellent	Good	None	Burst Disc
	No					Fair	Poor		Fair	Poor	Fuse Plug	Spring
	YES					Excellent	Good		Excellent	Good	None	Burst Disc
	No					Fair	Poor		Fair	Poor	Fuse Plug	Spring
	YES					Excellent	Good		Excellent	Good	None	Burst Disc
	No					Fair	Poor		Fair	Poor	Fuse Plug	Spring

# Class 2.2 Other Non-Flammable



# Class 2.3 - Toxic Gas



## Hazard Zones A-D

HAZARD ZONE	INHALATION TOXICITY
A	$LC_{50} \leq 200$ ppm
B	$LC_{50} > 200$ ppm and $\leq 1000$ ppm
C	$LC_{50} > 1000$ ppm and $\leq 3000$ ppm
D	$LC_{50} > 3000$ ppm and $\leq 5000$ ppm



### **SHIPPING DESCRIPTION: UN1005,** **Waste Ammonia, anhydrous, 2.3**

### **Other Common Examples:**

Lethalaire

DDT Bug Bombs

Pesticide fumigants with Pyrethrins

Carbon Monoxide

Chlorine



# Case Study



# Case Study



# Case Study



## Chemical 3407 - 1

Chemical Name:	<b>METHYL BROMIDE (TOXIC INHALATION HAZARD)</b>		
Technical Name:	<b>METHYL BROMIDE (TOXIC INHALATION HAZARD)</b>		
CAS Number:	<b>74-83-9</b>		
Pure DOT Ship Name	<b>METHYL BROMIDE</b>		
UN/NA Number:	<b>UN1062</b>	Compatibility Group:	<b>CG</b>
Packing Group:		Reportable Qty:	<b>1000</b>
Hazard Class Code:	<b>2.3</b>	Listed Hazardous Sub:	<b>Y</b>
Inhalation Zone:	<b>C</b>	EPA Codes:	<b>U029</b>
Marine Pollutant:	<b>N</b>	Shipping Labels:	<b>2.3</b>

# Case Study



# Flammable Liquids

- Flashpoint <100° F (OSHA)
- Vapors burn, not liquid
- Temperature increases the vaporization rate elevating hazard
- Keep away from heat, sparks and direct sunlight
- Inhalation hazard
- Store in flammable storage cabinet
- Keep away from oxidizers

Ethanol

Methanol

Acetonitrile

Xylene

Acetone

Toluene

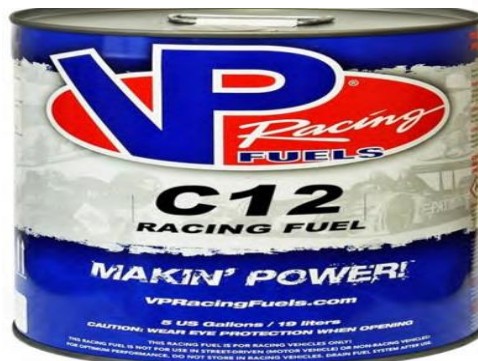
Isopropanol

Gasoline





# Class 3. Liquid Fuels Drum (CWDFUELS)





# Class 3 – Flammable Liquids (BULK)

## Solvents (CWDHHWFUELS)

SHIPPING DESCRIPTION: **UN1993, Waste Flammable Liquid, n.o.s., 3, II**

EPA WASTE CODES: **D001, D018, D019, D021, D022, D028, D032, D035, F003, F005**

- Consolidated Flammable Liquids (Pourable)
- BULK FUELS
- Use 5-55 gal that have a Liquid UN rating and proper closure of bungs and rings.

### **EXAMPLES:**

- Gasoline, Kerosene, Mineral Spirits, Tiki Torch Fuel, non-halogenated solvents, lighter fuels, halogens < 5 %, water < 20 %, inerts (dirt, rust, scale) 0-12", debris 0%, > 5,000 btu





# Class 3 – Flammable Liquids

## PAINT RELATED MATERIAL (CWDHHWPAINTCAN)

SHIPPING DESCRIPTION: **UN1263, Waste Paint Related Material, 3, II**

EPA WASTE CODES: **D001, D007, D008**





# Class 3 – Flammable Liquids

## **REQUIREMENTS:**

**-See Appendix – PaintCare, for PaintCare Packaging Guidance**

- **No Inventory Required. NO glass containers. No Epoxy Syringes**
- 5-gallon in size and smaller.
- Pack asbestos containing adhesives and tars separately.
- Use 55 gal UN1A2 (metal), UN1H2 (poly), UN1G (fiber) drums or non-DOT cubic yard boxes.
- Cubic yard boxes must have the 1263 placard labeling on the two opposing sides.
- Packing media not required except for fiber drums.
  - **Do NOT Use Sawdust for Packing Media.**

## **EXAMPLES:**

- Paint related materials: adhesives, sealants, cement, plaster, caulk, filler, spackle, paste, quart size and smaller oil based paint cans.



# Class 3. PaintCan Loosepack Roof Tars / Adhesives (CWDHHWPAINTCAN)





# Class 3 – Flammable Liquids

## FLAMMABLE LIQUID, TOXIC – POURABLE (CWDHHW3)

SHIPPING DESCRIPTION: **UN1992, Waste Flammable Liquids, Toxic, n.o.s., 3 (6.1), II**

EPA WASTE CODES: **D001, U070, U080, U211, U226**



# Discrepant material





# Class 3 – Flammable Liquids

## REQUIREMENTS:

- **NO Glass Containers.**
- **No Inventory Required**
- Material must be pourable / bulkable and 8 oz. or larger.
- Pack in 55 gal UN1A2 (metal), UN1H2 (poly), UN1G (fiber) drums.
- Packing media not required except for fiber drums.
  - **Do not use sawdust.**

## EXAMPLES:

- **Pourable** chlorinated products including strippers with methylene chloride, 1,1,1-trichloroethane, chloroform, dichlorobenzene, carbon tetrachloride, trichloroethylene, chlorobenzene, trifluorochloromethane, methanol based cleaners, thinners, oils, gasoline, kerosene, and lamp oil.





# Class 3. Flammable Liquids Pourable (CWDHHW3) Greater than 8 oz container size.





# Class 3 – Flammable Liquids

## “DIRECT CHARGE” FLAMMABLE LIQUID, TOXIC, NON-POURABLE (PTA484885)

SHIPPING DESCRIPTION: **UN1992, Waste Flammable  
Liquid, Toxic, n.o.s., 3 (6.1), II**

EPA WASTE CODES: **D001, U070, U080, U211, U226**



# Class 3 – Flammable Liquids



## REQUIREMENTS:

- **No Inventory Required**
- Three-gallon liquid limit per drum.
- Includes solidified materials, hardened chlorinated materials.
- Non-Pourable waste materials.
- Includes glass containers.
- No asbestos containing adhesives and sealers.
- Must be packed in 5 through 55 gal poly or fiber drum.
- Use vermiculite or corncob packing media.
- Do not use sawdust.



# Class 3. PTA Direct Charge (Non-Pourable) Small Containers of Flammable Liquids



# Class 4 & 5 Reactives

- Undergo vigorous polymerization, condensation, or decomposition
- Become self-reactive under conditions of shock or increase in pressure or temperature
- React vigorously with water to release a lethal gas

Ammonium Perchlorate

Azo Compounds

Hydrogen Peroxide (91%)

Peroxide Compounds

Nitro Compounds

Ethyl Ether

Picric Acid

Acrylic Acid

Acrylonitrile

Ethyl Acrylate

Hydrocyanic Acid

Methyl Acrylate

Vinyl Acetate



# Reactives – General Comments

- **Contact Veolia whenever you think you may have come across a reactive chemical.**
- **Certain materials will fall under the Reactives or Explosive line item on the State Contract and will be priced CBC.**
- **It is best to verify pricing with Veolia prior to issuing pricing to VSQG customers.**



# Class 4.1 – Flammable Solid



- **Wetted Explosives**
- **Readily combustible solids: may cause a fire through friction**
- **Self-reactive materials; liable to undergo a strong exothermic decomposition caused by excessively high transport temperatures. Divided into 7 types, A - G.**



# Class 4.1 – Flammable Solid



SHIPPING DESCRIPTION:

**UN1325, Waste Flammable Solids, Organic, n.o.s., 4.1, II**

EPA WASTE CODES: D001

## **REQUIREMENTS:**

- **Lab Pack Inventory Required**
- All Dinitro compounds must be wet and in quantities less than 100 grams.
- Self-reactive compounds will be inspected prior to shipment.
- Use 5 through 30 gal UN1G (fiber) drum.
- Use vermiculite as packing media.





# Class 4.1 Flammable Solid (Inventory Required)



# Class 4.2 – Spontaneously Combustible



- **Self-heating in contact with air, without an energy supply.**
- **Pyrophoric material, liquid or solid that can ignite within 5 minutes after contact with air. External ignition source is not required.**
- **Pyrophoric Liquids and Solids are Assigned Packing Group I**



# Class 4.2 – Spontaneously Combustible



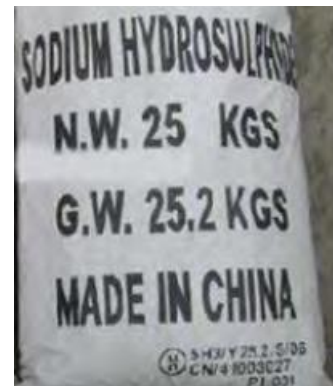
SHIPPING DESCRIPTION:

**UN3190, Waste Self-Heating Solids, Inorganic, n.o.s., 4.2, II**

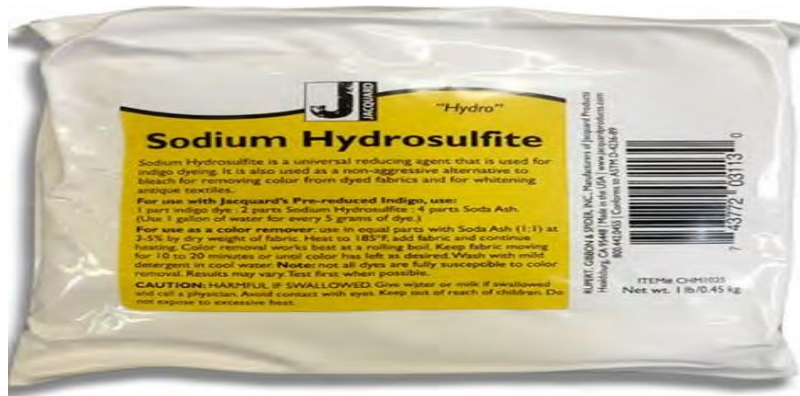
EPA WASTE CODES: D001, D003

**REQUIREMENTS:**

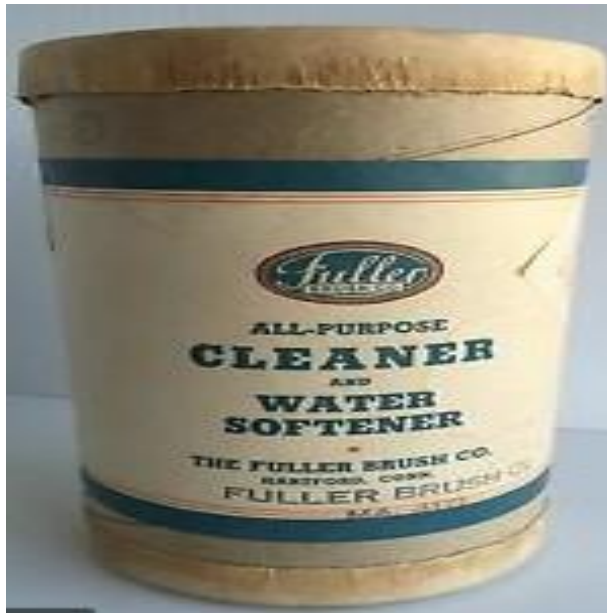
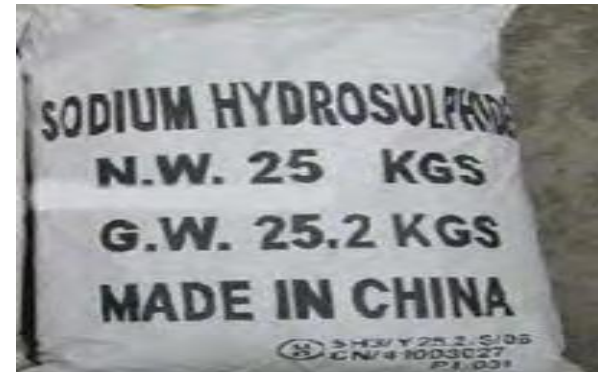
- **Lab Pack Inventory Required**
- Pack 4.2 packing group I materials separately (per DOT 173.12)
- Use 5 gal UN1G (fiber or poly) drum only.
- Vermiculite or oil dry only.
- 5-pound inner container limit.
- **Total Max Net Weight (combined chemical net weight) = 22 lbs./drum**



# Class 4.2 Spontaneously Combustible (Inventory Required)



- Spontaneously Combustible
- Sodium Bisulfide
- Sodium Hydrosulfide <25% in Water
- Sodium Hydrosulfite
- Zinc Powder



# Class 4.3 – Dangerous When Wet



**Upon contact with water, is liable to become spontaneously flammable or emit toxic gases**

- **Packing Group I**
  - Tendency to spontaneously ignite, or
  - Rate of evolution of flammable gases is greater than 10 liters/kg/min
  
- **Packing Group II**
  - Rate of evolution of flammable gases is greater than 20 liters/kg/hr
  - Does not meet criteria for PG I materials
  
- **Packing Group III**
  - Rate of evolution of flammable gases is greater than 1 liter/kg/hr
  - Does not meet the criteria defined for PG I or PG II

# Class 4.3 – Dangerous When Wet



SHIPPING DESCRIPTION:  
**UN2813, Waste Water-  
Reactive Solids, n.o.s., 4.3, II**

EPA WASTE CODES: D001, D003

## REQUIREMENTS:

- **Lab Pack Inventory Required**
- Use 5 gal (fiber or poly) drum
- **One pound maximum per drum for calcium carbide/metal phosphides**
- Use vermiculite as packing media.
- If you have any questions about packaging of this material, please contact Veolia.



# Class 4.3 Dangerous When Wet (Inventory Required)



## Dangerous When Wet

Aluminum Powder Uncoated

Aluminum Phosphide

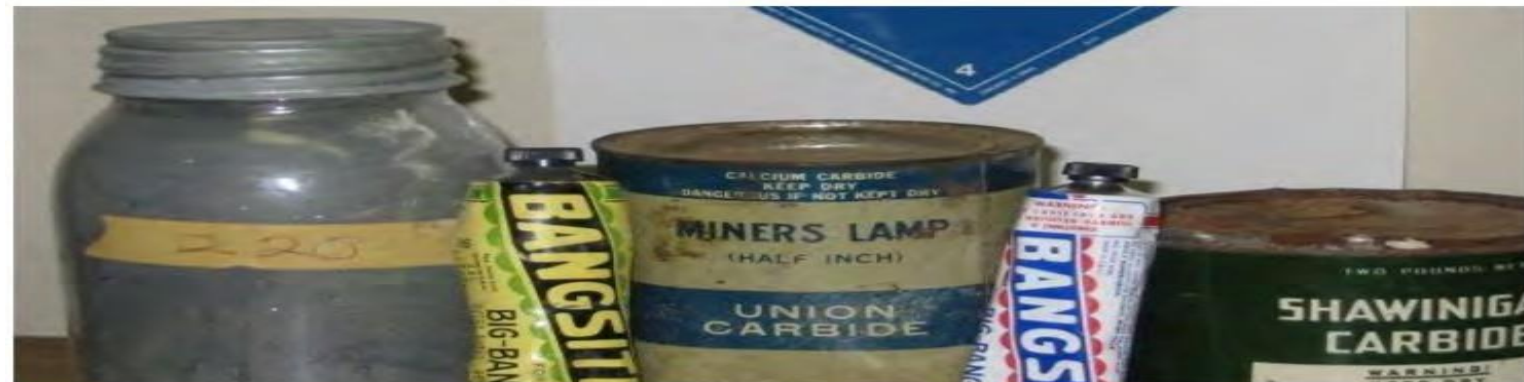
Calcium Carbide

Calcium Metal

Lithium Metal

Potassium Metal

Sodium Metal



## Class 5: Oxidizers and Peroxides

- Promotes combustion
- Releases oxygen
- Burns up organic material in water
- React with organics, potentially causing explosions or corrosion of surfaces

Chemicals  
(Groups)

Sanitizer  
(Bleach)

Nitrates

Perchlorate  
s

Chlorates

Dichromate  
s

Permanganate  
s

Persulfates



# Class 5.1 - Oxidizer



## Causes or Enhances Combustion

### **REQUIREMENTS:**

- **Lab Pack Inventory Required.**
- **Pack Solids and Liquids Separately:**
- **CALL FOR APPROVAL ON WETTED SOLID OXIDIZERS**



- **For Liquids:**

- Use a DOT poly (1H) or fiber (1G) container with a maximum outer container size of a 30 gallon drum.
- Use oil / floor dry as your first layer. Use vermiculite as your subsequent packing media for the rest of the drum.

- **For Solids:**

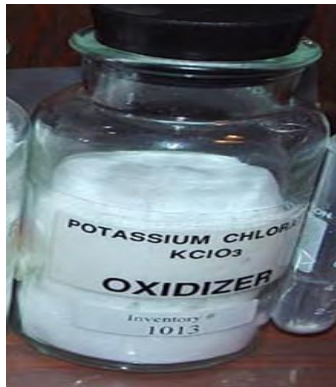
- Use a DOT poly (1H) or fiber (1G) container with a maximum outer container size of a 30 gallon drum.
- Use vermiculite as your absorbent for packaging.

# Class 5.1 Oxidizer Solids (Inventory Required)



## CHEMICAL SAFETY

COMMON OXIDIZING GROUPS	
CHEMICAL GROUP	CHEMICAL FORMULA
Peroxide	$O_2^{-2}$
Nitrate	$NO_3^-$
Nitrite	$NO_2^-$
Perchlorate	$ClO_4^-$
Chlorate	$ClO_3^-$
Chlorite	$ClO_2^-$
Hypochlorite	$ClO^-$
Dichromate	$Cr_2O_7^{-2}$
Permanganate	$MnO_4^-$
Persulfate	$S_2O_8^{-2}$



# Class 5.1 Oxidizer Liquids (Inventory Required)



## CHEMICAL SAFETY

COMMON OXIDIZING GROUPS	
CHEMICAL GROUP	CHEMICAL FORMULA
Peroxide	$O_2^{-2}$
Nitrate	$NO_3^-$
Nitrite	$NO_2^-$
Perchlorate	$ClO_4^-$
Chlorate	$ClO_3^-$
Chlorite	$ClO_2^-$
Hypochlorite	$ClO^-$
Dichromate	$Cr_2O_7^{-2}$
Permanganate	$MnO_4^-$
Persulfate	$S_2O_8^{-2}$



# Class 5.2 – Organic Peroxide



- **Compounds containing oxygen in the bivalent o-o structure**
  - **Divided into 7 types, A – G**
  - **Assigned to Packing Group II**
- SHIPPING DESCRIPTION: **UN3105, Waste Organic Peroxide type D Liquid, 5.2, II.**

EPA WASTE CODES: D001, D003



# Class 5.2 – Organic Peroxide



## REQUIREMENTS:

- **Lab Pack Inventory Required**
- Use 5 gal UN1G (fiber or poly) drum only.
- Pack only one (1) type of Organic Peroxide per labpack.
- Different concentrations of the same O.P. have different shipping names thus requiring individual packaging.
- Maximum inner container = 12 ounces in size, unless it requires temperature control during shipment.
- Use vermiculite as packing media.



# Class 5.2 – Organic Peroxide



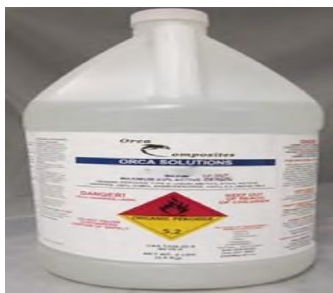
# Class 5.2 Organic Peroxides (Inventory Required)



- Benzoyl Peroxide
- Methyl Ethyl Ketone Peroxide



\*Containers greater than 2 oz may be Veolia Temp Controlled requiring separate approval.



# Toxic

Substances that can cause:

- damage, illness, or death to organisms
- a harmful effect to the environment



Methylene chloride

Lead

Dioxin

PCB

Carbon disulfide

Carbon monoxide

Ethyl alcohol

Mercury

Warfarin



# Class 6.1 - Toxic



## PESTICIDES LIQUID (CWDHHWPLIQ)

SHIPPING DESCRIPTION: **UN2903, Waste Pesticides Liquid, Toxic, Flammable, n.o.s., 6.1 (3), II**

### REQUIREMENTS:

- **No Inventory Required**
- **NO Glass Containers.**
- Pack PIH's separately.
- Pack 6.1 packing group I materials separately (per DOT 173.12).
- Pack dioxins and cyanides separately & Inventory
- No halogenated non-pesticide containing products should be packaged in this group.
- Pack in 5 through 55 gal drums.
- Packing media not required except for fiber drums.



# Class 6. Pesticide Liquids PESTICIDE/POISON LIQUIDS (CWDHHWPLIQ)



\*Pack Dioxin Wastes Separately. (Penta Compounds)

\*Pack Arsenic Trioxide Separately.



# Class 6.1 - Toxic PESTICIDES SOLID (CWDHHWPSOL)

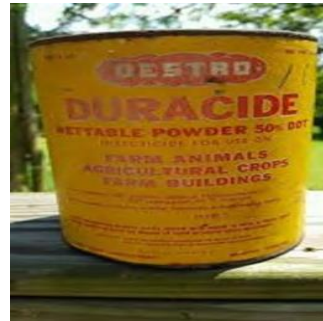
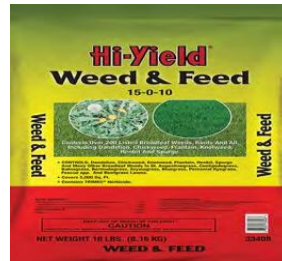
- SHIPPING DESCRIPTION: **UN2588, Waste Pesticides Solid, Toxic, n.o.s., 6.1, II**

## REQUIREMENTS:

- **No Inventory Required.**
- Pack PIH's separately.
- Pack 6.1 packing group I materials separately (per DOT 173.12).
- Pack dioxins and cyanides separately.
- Pack arsenic trioxide separately.
- Pack in 5 through 55 gal drums.
- Packing material not required except for fiber drums.
- ALL CYANIDE/DIOXIN/PENTA COMPOUNDS ARE LABPACK W/ INVENTORY REQUIRED.



# Class 6. Pesticide Solids PESTICIDE/POISON SOLIDS (CWDHHWPSOL)



# Class 6.1 - Toxic



## DIOXIN SOLIDS & LIQUIDS (CWDHHWDIOX)

SHIPPING DESCRIPTION: **UN2810, Waste Toxic Liquids, Organic, n.o.s., 6.1, II**

### REQUIREMENTS:

- Packing solid and liquid dioxins together in the same outer container is acceptable.
- Pack in 5 gal through 30 gal drums.
- Packing media is required (vermiculite).
- Contact Veolia ES before accepting large (>5 gallon) containers of Dioxin/Pentachlorophenol bearing waste.
- Pack pentachlorophenol and dioxins separately from each other with inventory

**EXAMPLES:** Chlorophenols, Silvex

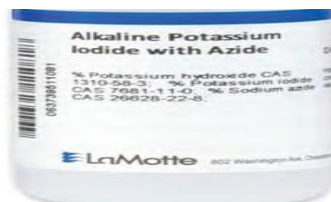
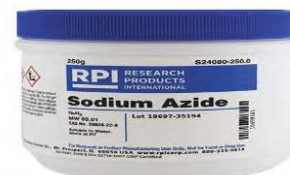
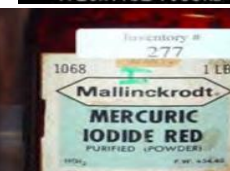
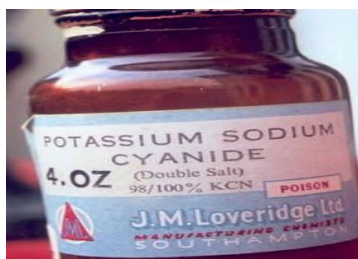


# Class 6. Pack Alone ( Inventory Required)



## Pack Alone:

- PIH Poison Inhalation Hazard
- Inorganic Mercury Solids / Solutions
- Organic Mercury Solids / Solutions
- Cyanides
- Arsenic Compounds
- Metal Azides
- Dioxin Bearing Waste



# Class 6.1 - Toxic



## Poisonous by Inhalation (PIH)

### REQUIREMENTS:

- **Pack items alone.**
- Pack into a PIH Exemption Box.
- Inventory will be required.



**Chloropicrin, Liquid  
Class 6.1, PIH - Zone B**



**Bromine, Class 8,  
6.1, PIH – Zone A**



**Methyl Bromide, Class 2.3,  
PIH – Zone C**



# Class 6.1 - Toxic



## INORGANIC/ORGANIC MERCURY SOLIDS/SOLUTIONS (CWDSSSHGCPD)

SHIPPING DESCRIPTION: **UN2025,  
Waste Mercury Compounds, solid,  
n.o.s., 6.1, PGII**

EPA WASTE CODES: D009

### REQUIREMENTS:

- **Lab Pack Inventory Required.**
- Pack Inorganics separate from Organics
- Pack in 5 gallon poly container only.
- **mercuric/mercury cyanides must be packed alone and Inventory Required**





# Class 7 - Radioactive



- Spontaneously emit ionizing radiation
- Having specific activity greater than 0.002 microcuries per gram

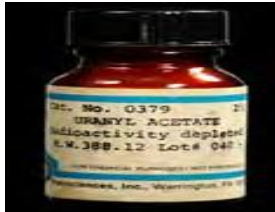


## Packaging Instructions:

- Contact Veolia. Radioactive materials require special packaging specifications tailored to the requirements of the end-disposal site.

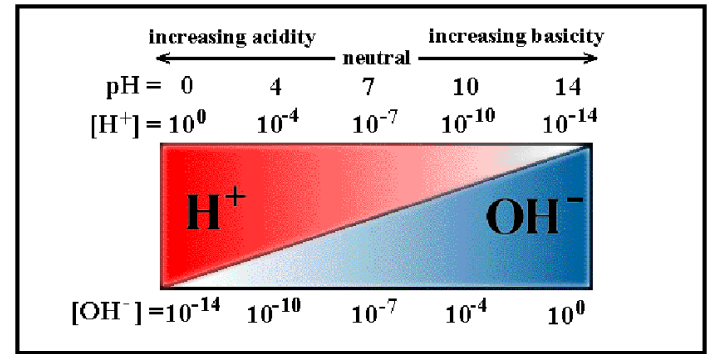


# Class 7. Radioactive (CASE BY CASE)





Represents how many hydrogen ions are present in a solution



- Measures the relative strength of acids and bases
- Valid for aqueous solutions (H<sub>2</sub>O)
- Strong acids: low pH
- Strong bases: high pH



# Corrosive: Acids

- pH range: 0 - 2
- Store separate from oxidizers, bases
- Cause severe burns
- Corrode metal and ruin labels
- Add acid to water, not the reverse

Chromic

Hydrochloric

Nitric

Sulfuric

Phosphoric

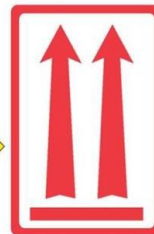


**Corrosive Liquid, n.o.s.**  
**(containing nitric acid) 8, UN-1760, PG-II**  
*Proper Shipping Name and Class per 49 CFR 172.101*

**WARNING! CORROSIVE!** Harmful if swallowed, inhaled or absorbed through skin. May cause irritation or burns to skin, eyes and respiratory tract. Do not ingest.

Refer to MSDS for hazardous ingredients and proper handling.

For Emergencies Involving This Product Call  
INFOTRAC  
1-800-535-5053 US/CANADA  
325-323-3500 OUTSIDE US/CANADA



# Class 8 - Corrosives



## ACIDS-INORGANIC (CWDHHW8IA)

SHIPPING DESCRIPTION: **UN3264, Waste Corrosive Liquids, Acidic, Inorganic, n.o.s., 8, II**

EPA WASTE CODES: D002

### REQUIREMENTS:

- **No Inventory Required (Main Profile)**
- **Nitric Acid, Hydrofluoric Acid and Aluminum Chloride** must be isolated and packaged separately with inventories. Pack in 5 through 55 gal UN1H2 poly or UN1G fiber drums.
- Use vermiculite
  - **No sawdust or corncob for packing media.**
- No metal drums.
- Liquids and solids may be packed together.



# Class 8. Inorganic Acid (CWDHHW8IA)



- Common Inorganic Acid
- Muriatic Acid (Hydrogen Chloride) (Hydrochloric Acid)
- Phosphoric Acid
- Sulfuric Acid
- Sodium Metabisulfite
- Sodium Bisulfate
- Zinc Chloride
- Sulfamic Acid
- Boric Acid

**ZINC CHLORIDE FLUX**  
FOR COPPER, BRASS, ZINC & MILD STEEL

- Highly effective flux for most metals such as copper, brass, zinc and pre-soldered materials
- Aggressive acid based flux for oxide removal
- Promotes active wetting for excellent solder joints
- Easy clean flux residues

**HOW TO USE:**

Easy application. Simply brush the ZH1 flux on and leave for a few seconds. Apply the solder and soldering iron to the surface to produce the solder joint.

**SAFETY INFORMATION:**

Warning: Corrosive and Harmful Irritant  
Contains Zinc Chloride (30 - 40%)

Harmful if swallowed. Causes severe burns. Do not breathe fumes and vapours. Wear protective gloves and eye protection.

For Full Safety Data Sheet, visit our website or contact our sales representatives. © 2014, The Welding Institute Ltd.

# Class 8 - Corrosives



## ACIDS-ORGANIC (CWDHHW80A)

SHIPPING DESCRIPTION: **UN3265, Waste Corrosive Liquids, Acidic, Organic, n.o.s., 8, II**

EPA WASTE CODES: D002

### REQUIREMENTS:

- **No Inventory Required.**
- No metal drums.
- Pack in 5 through 55 gal 1H2 poly or UN1G fiber drums.
- Use vermiculite
  - **no corncob or sawdust for packing media.**
- **Liquids and solids may be packed together.**



# Class 8. Organic Acid (CWDHHW80A)



## Common Organic Acids

Acetic Acid

Hydroxyacetic Acid

Oxalic Acid

Acidified Thiourea

Formalin

Oleic Acid

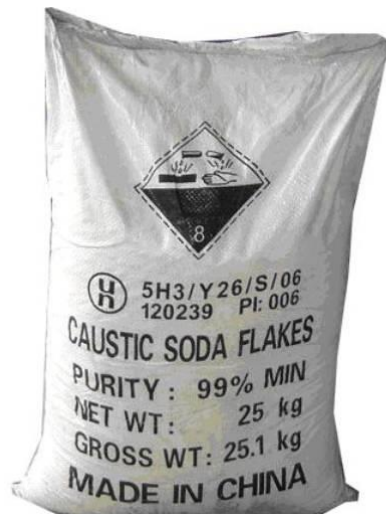
Tannic Acid





## Corrosives: Bases

- pH range: 12.5 - 14
- Inhalation hazard
- Store separate from acids
- Cause severe burns
- Add to water slowly to avoid reactions



Metal Oxides

Hydroxides

Ammonia



# Class 8 - Corrosives



## ALKALINES (CWDHHW8B)

SHIPPING DESCRIPTION: **UN3266, Waste Corrosive Liquids, Basic, Inorganic, n.o.s., 8, II**

EPA WASTE CODES: D002

### REQUIREMENTS:

- **PACK ALL BLEACH SOLUTIONS SEPARATE (SODIUM HYPOCHLORITE)**
- **Pack Drano with "Metal Fines" separately and inventory.**
- Pack in 5 through 55 gal UN 1H2 (poly) or 1G (fiber) drums.
- **Organic and Inorganic bases can be be packed together.**
- Use Vermiculite, sawdust or corncob for packing media.
- Amines are included, but pure amine solutions are not.



# Class 8. Base (CWDHHW8B)

## Common Chemical names

Sodium Silicate

Tri-sodium Phosphate (TSP)

Potassium Hydroxide

Sodium Hydroxide

Sodium Metasilicate

Sodium Carbonate

Calcium Carbonate

Ammonia Solutions

Ammonium Hydroxide

Ammonium sulfamate



# Drano

- **Drano Containing Sodium Nitrate (Oxidizer)**
- **Drano containing Aluminum (Oxidizer)**



# CWDHHW8B with Bleach



## ALKALINES (CWDHHW8B)

SHIPPING DESCRIPTION: **UN3266, Waste Corrosive Liquids, Basic, Inorganic, n.o.s., 8, II**

EPA WASTE CODES: D002

### **REQUIREMENTS:**

- **NO Inventory Required**
- Pack in 5 through 55 gal UN 1H2 (poly) or 1G (fiber) drums.
- Solids and Liquids can be packed together.
- Use Vermiculite, sawdust or corncob for packing media.



# Class 8. Bleach (CWDHHW8B)



# Class 8 - Corrosives



## MERCURY/DEVICES

SHIPPING DESCRIPTION: **UN3506, Waste Mercury contained in manufactured Articles, 8 (6.1), III**

### REQUIREMENTS:

- Metallic/elemental mercury (quicksilver) devices and debris do not require inventory.
- Pack in 5 through 55 gal UN1H2 (poly), or UN1G (fiber) drums (poly recommended).
- Do not use metal containers.
- Place 2 drum liners or bags (double line) inside the drum for encapsulation of any free liquid Mercury (not required for intact containers/devices).
- Use bubble wrap, if available, to prevent breakage of extra fragile items.



Kevin Hamack



# Class 8. Pack Alone Inventory Required

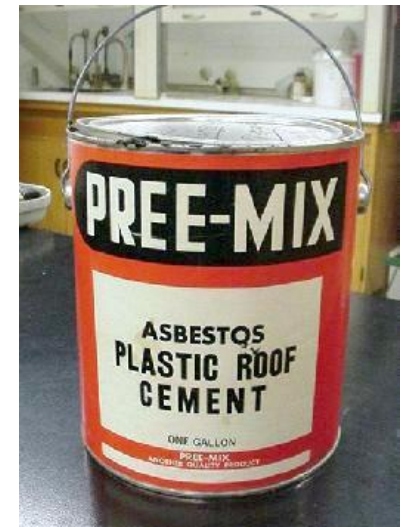


- Hydrofluoric Acid
- Nitric Acid



# Miscellaneous Dangerous Goods

- Magnetized material
- Elevated temperature goods
- Dry ice
- Asbestos
- Environmentally hazardous substances
- Life-saving appliances
- Engines, internal combustion
- Polymeric beads
- Battery-powered equipment or vehicle
- Zinc Dithonite





# Class 9 - Miscellaneous

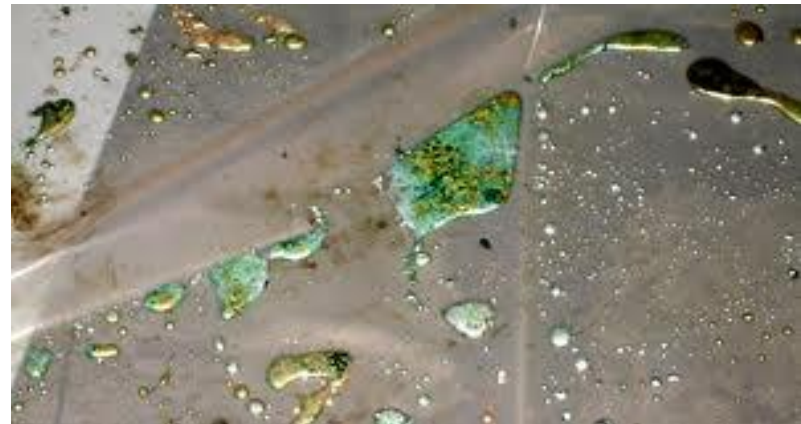
## MERCURY CONTAMINATED DEBRIS (SSS Profile #)

SHIPPING DESCRIPTION:  
**NA3077, Hazardous waste, solid, n.o.s., 9, III**

EPA WASTE CODES: D009

### EXAMPLES:

- mercury spill kits, spill clean up with visible mercury,
- contaminated carpet, dental amalgam, sink traps
- **Re-cert Profiles Annually**





# Class 9 - Miscellaneous

## ASBESTOS, NON-FRIABLE (CWDHHWASBNF)

SHIPPING DESCRIPTION: **Non-Regulated Material**

EPA WASTE CODES: None

### **REQUIREMENTS:**

- Use UN1A2 (steel), poly or fiber drum
- Cubic yard boxes are acceptable (DOT or non-DOT packaging).
- Fill ALL void spaces with additional absorbent material before closing the drum.
- No sawdust or other organic absorbent material is allowed.





# Class 9 - Miscellaneous

## **ASBESTOS, FRIABLE (CWDASBESTOS)**

SHIPPING DESCRIPTION: **NA2212,  
Asbestos, 9, III**

EPA WASTE CODES: None

### **REQUIREMENTS:**

- All friable asbestos must be wetted and triple bagged.
- **Must be packed into Fiber or Poly Drums only. Steel drums are no longer acceptable.**
- Use 5 through 55 gal UN1H2 (poly) or UN1G (fiber) drum.
- Packing media not required.



# Class 9 - Miscellaneous



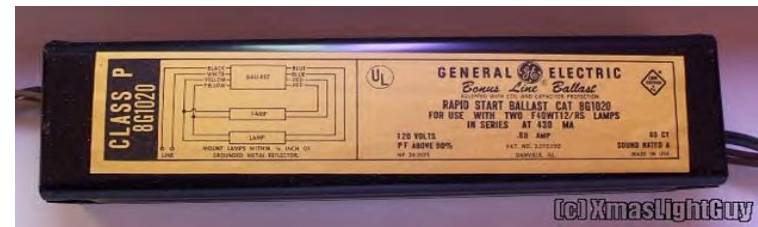
## PCB BALLASTS (SLM Profile #)

SHIPPING DESCRIPTION: **UN3432, Polychlorinated biphenyls, solid, 9, III, RQ**

WASTE CODES: MN03, PCB2

### REQUIREMENTS:

- Pack in 5 through 55 gal UN 1A2 (metal), UN 1H2 (poly) or 1G (fiber) drums.
- Packing media not necessary.
- Do not exceed weight rating of the drum – 880 pounds for a 551A2.
- Mark with PCB label.





# E-Cig / Vape Pens / Lithium Batteries in Devices



## Contract Amended and Ready to Ship

### Section 2 – LABPACKS

#### E-CIGARETTES

SHIPPING DESCRIPTION FOR USED ASSEMBLED  
E-CIGARETTES WITH LI-ION BATTERY: **UN3481, Lithium-ion  
batteries contained in equipment, 9**  
EPA WASTE CODES: D001, P075



#### Requirements:

- Shipped separately from batteries
- If possible remove battery and ship battery separately
- If Possible: Ensure Devices are turned off prior to packing
- Many of the electronic devices have an external "on" button. Therefore, it is imperative that they be packed to prevent the activation of the electronic device while in transit.
- The devices need to be immobilized within the outer packaging.
- **Requires Veolia Approval prior to shipment.** Pack devices in 5-gallon Poly Containers.
- Vermiculite or CellBlock media needs to fill the entire container to prevent shifting in transit.
- Must be manifested separately from other waste streams.**
- Use Class 9 Battery Label**



# Nicotine Liquids

## E-Cigarette Nicotine Liquids

SHIPPING DESCRIPTION FOR UNUSED Liquid: **NA3082, HAZARDOUS WASTE, LIQUID, n.o.s., 9, PGIII**  
~EPA WASTE CODES: P075

### **REQUIREMENTS :**

- **LAB PACK INVENTORY REQUIRED.**
- Pack in 5 gallon poly pail.
- Use Vermiculite for packing media.

When discarded, unused commercial chemical products with nicotine as the sole active ingredient are assigned hazardous waste code P075. E-cigarettes and other nicotine products are delivery mechanisms for nicotine solutions in which nicotine is the sole active ingredient and therefore are an acute hazardous waste (P075) when disposed. EPA has concluded that nicotine is the sole active ingredient of the e-liquid in e-cigarettes and thus a commercial chemical product, the e-cigarettes are not "manufactured articles", and the e-cigarette cartridges are considered containers of nicotine.





# Paint Packing Guidelines (PaintCare)



# PaintCare Latex Paint (WIP)

## Latex Paint

### *(PAINT CARE LATEX WIP)*

Shipment In Bulk Drums: (AMFBULK)

Shipment in Boxes

**Include Pints & ½ Pint Containers**

**DO NOT SHIP LOOSEPACK LATEX IN DRUMS.**

- Amazon requests that Generators do the best that they can to isolate the less than Quart size containers if possible.
  - Place or stack small containers on one-side of the box OR
  - Utilize a small cardboard box (1-2 cubic feet) and fill with the less than quart size containers and place inside the outer box.
- Continue to utilize Non-DOT boxes
  - Continue to utilize box liners
  - Continue to conduct box size measurements





# PaintCare Oil Paint (WIP)

---

***(PAINT CARE OIL PAINT) WIP 4 Ways to ship***

**“PaintCare Oil Paint in Glass Jars” PaintCare Eligible Oil Paint in Glass Jars (INCINERATION) (PTA484885)**

*Approval (PTA484885)*

Shipment of Pints and Half Pints (55 gallon Drum)

*PAINTCARE APPROVAL (CWDPCARELP3)*

Shipment in Boxes

*PAINTCARE APPROVAL (CWDPCAREBOX3)*

Shipment in Drums (BULK)

*PAINTCARE APPROVAL (CWDPCAREBL3)*



# Questions?



Thank you for your time and attention.

Resourcing the world 

