

ENSURE ALL EMPLOYEES AND SUB-CONTRACTORS WORKING FOR AVALANCHE ACID REVIEW THIS NEWSLETTER.
IT IS A KEY PART OF OUR SAFETY PROGRAM



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MONTHLY HEALTH & SAFETY NEWSLETTER

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COLD WEATHER

The inevitable cold weather is approaching sooner than we would like. This is the time to prepare one's self for this dreaded cold weather. Ensure that you have enough clothing and food while driving to and from sites, as you never know what could happen. Employees also need to ensure that all trucks (pumps, hoses) are drained down at disposal and methanol is put in the pumps going forward. If any pumps freeze, they could cause internal damage and thousands of dollars to the company!

With the roads getting wetter and possibly freezing in areas, ensure tire chains are utilized at all times. Remember that tire chains need to be tightened after driving a couple hundred meters. Loose chains can cause damage to the truck and tires if not properly tightened. When in doubt, chain up to err on the side of caution!

Lastly – ensure you have a good line of communication with Dispatch at all times. Call or text before leaving the site so that we are aware of your travels – this goes hand and hand with our working alone policy.

Safe Travels out there Avalanche Acid Hauling employees 😊



SAFETY SUGGESTIONS/CONCERNS

If there is a topic or item that you would like either reviewed in a monthly newsletter or discussed at the quarterly safety meetings; please fill out suggestions and concerns form and please drop a note in the Safety Basket and we will do our best to accommodate your safety requests.

Proud Members Of



WHAT IS HYDROCHLORIC ACID

Hydrochloric acid sounds like a scary substance and, in fact, it can be. However, you may be surprised to learn that hydrochloric acid is a common liquid used in several industries around the world. Approximately 20 million tons of hydrochloric acid are produced globally each year, and you can even find it in your own home! These hydrochloric acid safety tips can help you handle this toxic substance safely and appropriately, whether you encounter it at home or in the workplace.

Hydrochloric Acid and Uses & Attributes

Hydrochloric acid is a colorless to light yellow water-soluble liquid with a pungent, irritating odor. Produced as early as the 16th century, hydrochloric acid was historically known as “*spirits of salt*” and is sometimes called *muratic acid*. It is used for a variety of purposes and is available at concentrations from 10 to 34 percent depending on its application. Hydrochloric acid is used for:

- Steel pickling
- Producing organic compounds (for PVC, activated carbon, ascorbic acid, and pharmaceuticals)
- Producing water treatment chemicals
- Regulating water pH
- Leather processing
- Salt purification
- Household cleaners
- Building construction
- Oil well acidizing
- Producing gelatin products

How to Handle Hydrochloric Acid Safely

Safety is of utmost importance when handling dangerous chemicals like hydrochloric acid. The Environmental Protection Agency regulates hydrochloric acid as a toxic substance, and it should be treated as such. It is recommended that you wear the following protective equipment when using hydrochloric acid of any concentration:

- Vapor respirator
- Rubber gloves
- Boots
- Full suit
- Face shield

If using hydrochloric acid at your workplace, it is highly recommended you have access to an eye-flush station in case of accidental exposure. You should also review all Hydrochloric Acid MSDS information before making contact.

If using hydrochloric acid household cleaners in your home, follow the label directions and safety instructions closely. (It is usually recommended that you first dilute the cleaner to reduce its concentration.) It is still important to wear protective clothing when using diluted acid, to ensure that it doesn't come into contact with your skin, eyes, or mouth.

WHAT IS HYDROCHLORIC ACID

Product Overview

- Hydrochloric acid is a highly reactive material
- Hydrochloric acid is a strong inorganic acid that is used in many industrial processes. The application often determines the required product quality and strength. The Applications include regeneration of ion exchangers, pH control and neutralization, pickling of steel, production of inorganic compounds and production of inorganic compounds. Other applications which hydrochloric acid is a fundamental chemical are leather processing, household cleaners and building construction and many smaller applications.
- Like any reactive chemicals, hydrochloric acid products can create hazards if handled carelessly. All persons associated with the transportation, storage or handling of hydrochloric acid must understand the hazards. This includes training in the recommended normal and emergency handling procedures.
- Poison, Danger, Corrosive liquid and mist cause severe burns to all body tissue. May be fatal if swallowed or inhaled. Inhalation may cause lung damage.
- The primary hazards with hydrochloric acid are from contact of the skin or inhalation of its vapors. Airborne limits have been established for hydrochloric acid vapor concentrations in the work environment. The American Conference of Governmental Industrial Hygienists (ACGIH) has a threshold limit value (TLV) of 2 ppm for ceiling limit. Occupational Health and Safety Administration (OSHA) has established an exposure limit of 5 ppm as a ceiling limit, also.
- For further safety and health information, the current Material Safety Data Sheet (MSDS) should be used for this substance.

Physical/Chemical Properties

- Hydrochloric acid is a clear, colorless, fuming and corrosive liquid that has a strong pungent odor.
- Hydrochloric acid solubility in water is infinite and is freely soluble in most organic solvents.
- The Boiling point of Hydrochloric acid is 53°C (azeotrope of 20.2%) and the Melting point is -74°C.
- Hydrochloric acid will react with water and a wide variety of chemicals. These reactions can generate heat and the reactions can become progressively more vigorous and can be violent.



WHAT IS HYDROCHLORIC ACID

Health Information

Acute Hazards

Hydrochloric acid is a potentially hazardous material. A thorough knowledge of potential dangers, with strict adherence to recommended safety practices, is essential before hydrochloric acid products are handled, stored or used. Workers must be properly instructed and supervised in the handling of hydrochloric acid. The primary hazards with hydrochloric acid are the inhalation of its vapors. Limits have been established for allowable vapor concentrations in the work environment. ACGIH has a threshold limit value (TLV) of 2 ppm for a ceiling limit, while OSHA has a 5 ppm ceiling limit established.

Effects on Respiratory System:

Inhalation of vapors can cause coughing, choking, inflammation of the nose, throat, and upper respiratory tract, and in severe cases, pulmonary edema, circulatory failure and death.

Effects on Eyes:

Vapors are irritating and may cause damage to the eyes. Contact may cause severe burns and permanent eye damage.

Effects on Skin:

Can cause redness, pain, and severe skin burns. Concentrated solutions cause deep ulcers and discolor skin.

Effects on Ingestion:

Swallowing hydrochloric acid can cause immediate pain and burns of the mouth, throat, esophagus and gastrointestinal tract. May cause nausea, vomiting, and diarrhea. Swallowing may be fatal.

Chronic Hazards

Long term exposure to concentrated vapors may cause erosion of teeth. Long term exposures seldom occur due to the corrosive properties of the acid.

First Aid

Eye Contact - The eyes should be immediately flushed with large amounts of water continuously for at least 15 minutes. Get immediate medical attention. It is necessary to hold the eyelids apart while flushing to ensure complete irrigation of the eye. Washing eyes within several seconds is essential to achieve maximum effectiveness. A delay of a few moments or incomplete washing can result in partial or permanent blindness. Never attempt to neutralize hydrochloric acid in the eyes with chemicals. Do not apply oils or ointments unless specifically prescribed by a physician.

Skin Contact - Flush the area of contact with large amounts of water. Contaminated clothing should be removed while underneath a safety shower. Get immediate medical attention. Do not attempt to neutralize the acid with alkaline solutions. No oils or ointments should be applied unless specified by a physician.

Inhalation – Remove individual to fresh air and get immediate medical attention. In cases of severe exposure, humidified oxygen should be administered by someone medically trained to administer oxygen. If respiration or pulse has stopped, have a trained person administer Basic Life Support (Cardio-Pulmonary Resuscitation and/or Automatic External Defibrillator) and CALL FOR EMERGENCY SERVICES IMMEDIATELY.

Ingestion - Get immediate medical attention. If individual is a fully conscious, give large amount of water. Do not use sodium bicarbonate in an attempt to neutralize the acid. Do not induce vomiting. Never give anything by mouth to an unconscious person.

EMERGENCY SPILL RESPONSE PLAN

WORKERS RESPONSIBILITIES DURING EMERGENCY SPILL

Ensure your own safety first – move up wind, out of flash zone, out of the path of other hazards at the scene

Ensure the safety of others – take steps to protect the injured, public or our clients

Minimize impact – shut down, isolate, ESD, berm around spill, extinguish, apply first aid or CPR

Call for help – Notify your Supervisor/dispatch – provides the following details to him/her:

- This is “Name” I have a “Type” emergency
- Location and time of emergency including directions if appropriate
- Details of incident/accident, damage or spill
- Resources required for response – 911 (fire/ambulance/RCMP)
- Establish a time line for call back

If you cannot notify your Supervisor use the following call down till you get a response:

1. **President-Jay Davie (780) 706-4818**
2. **24 hr Number / Office (780) 831-4911**

Preserve evidence – picture, sketch, detailed written information of the incident/accident, name of witnesses, phone numbers, company name, establish a perimeter

AT THE SCENE:

- Remain calm and think
- Protect yourself first, get out of area and assess for hazards before re-entering
- Hazards may include traffic, ignition sources, power lines, and fire, and explosion, toxic or explosive vapors
- Isolate the source of the spill fluid if safe to do
- Protect others from injury and establish a safe area
- Minimize the impact of the spill by doing the following steps
 - Create a temporary berm to contain spill (dirt, clay, hay or artificial absorbents can create a barrier)
 - try to block culverts to stop the release of the product
 - try to divert the spill away from any/all water outlets
 - Do not drive or walk through the spill zone
 - Determine volume of spill, area in which covered, immediate dangers and other potential information
 - Cooperate with emergency personal attending scene
 - Cooperate with client representative or operating authority to provide details – do not speculate
 - All recovery and clean-up activities need to be documented and noted which needs to include estimated volume, type, all fluids brought on location to assist in cleanup, record amount of fluid removed from location with accurate volume for oil and water and must have location where it is being taken to for disposal.
 - If possible document site with before and after photos

REMAIN AT THE SCENE UNTIL RELIEVED BY An AVALANCHE ACID HAULING LTD. EMPLOYEE OR TOLD TO STAND DOWN FROM THE SCENE BY YOUR SUPERVISOR

EMERGENCY SPILL RESPONSE PLAN

DISPATCH RESPONSIBILITIES DURING EMERGENCY CALL

- First call is to office dispatch. Get the required information:
 - Where is the emergency located?
 - Details of emergency. Is anyone hurt? Is there acid spilled? How much?
 - Has emergency response been called?
- Dispatch calls:
 - 911 if not already called
 - DOT 1-800-272-9600
 - Provincial Emergency in BC 1-800-663-3456
 - Service Company – Call ERP
 - Halliburton 1-800-335-6333 Reference # ERAP2-1580
 - Canyon 1-877-350-3722 Emergency Response Plan: ERP2-1730 (HCL ONLY)
 - Trican 613-996-6666 (Canutec)
 - Sanjel 1-877-378-7745 (Quantum)
 - Schlumberger
 - Fluid Energy Group 1-800-424-9300 (Chemtrec)
 - Sand Source 1-604-929-3441 ERAP2-008
 - Oil Company – Call the Consultant
 - Jay Davie 780-706-4818
- Start an immediate report including:
 - UN # of product – e.g. 1760/8.1 class
 - Quantity hauled before release
 - Quantity released/spilled after accident
 - Conditions of Accident
 - Weather
 - Truck problems/issues
 - Wildlife
 - Be honest if the accident was caused by driver error
 - Description of Accident
 - Truck in ditch
 - Truck upright or on its side
 - Description of where the release came from
 - Vent line
 - Trailer Hose
 - Sumps or pump
 - Load hose
 - Location of accident
 - Highway#
 - Lease#
 - Directions to location
 - Record of any injuries
 - Driver
 - Helper on Lease
 - Other bystanders
 - WCB claim forms to be completed and reported within 24 hours
 - If personnel had to be evacuated
 - How many persons were evacuated
 - Review driver statement of incident with driver and management before the statement is released to any relevant parties (customer representatives, consultants, etc.)

Incident report must be completed and given to Management within 24 hours. Management will follow up with MHK insurance for claim if needed. Management will investigate the incident, issue a report, and follow up with corrective actions

EMERGENCY SPILL RESPONSE PLAN

SUPERVISOR RESPONSIBILITIES DURING EMERGENCY CALL

- Receive Emergency information from Employee at scene
- Initiate resources required for Emergency Response – Refer to Emergency Response Contacts
- Communicate to the Employee on scene of resources initiated and estimated time of arrival on site
- Maintain consistent communication with the Employee on scene. Establish call back intervals
- Notify Avalanche Acid Hauling Ltd. President
- Notify the HSE co-coordinator of emergency and severity to initiate one of the following responses
 - go to scene of emergency to support on scene commander
 - go to location of emergency manager/supervisor to support emergency response
 - other support activities as directed by Avalanche Acid Hauling Ltd. Management
- Maintain a detailed log of all incoming/outgoing calls during the emergency. Refer to emergency call log in this section
- Establish communication with clients, regulators or other officials when the emergency is in a stand down mode.
- Communicate emergency stand down to the Employee on scene and to Avalanche Acid Hauling Ltd. Management
- Maintain the Emergency Managers duties until emergency is over

MANAGEMENT RESPONSIBILITIES (EMERGENCY SUPPORT)

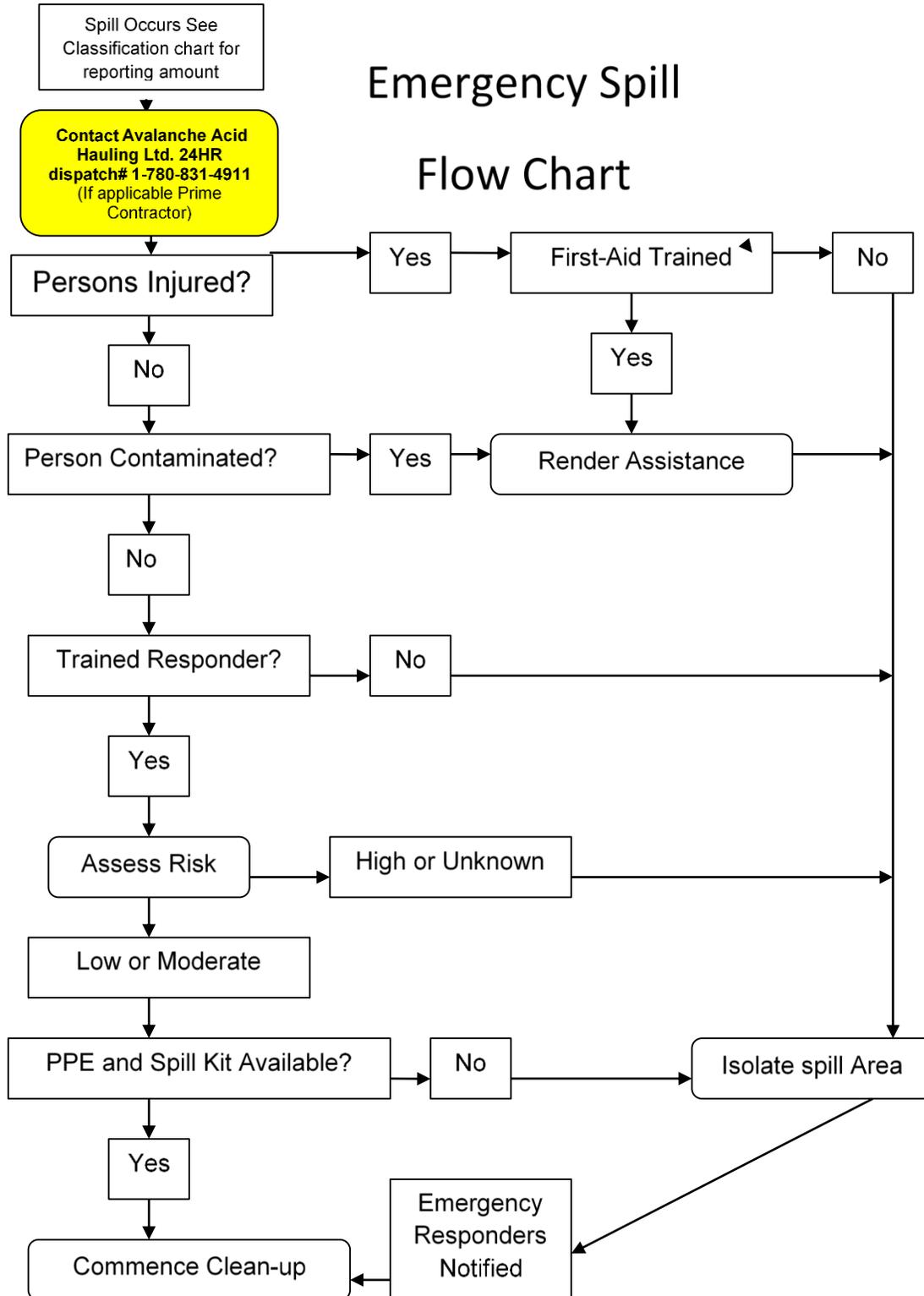
- Receive Emergency information from the Emergency supervisor/manager
- Maintain a detailed log of all incoming/outgoing calls during the emergency. Refer to emergency call log in this section
- Notify the HSE co-coordinator if dispatch was unable to and initiate one of the following responses
 - go to scene of emergency to support on scene commander
 - go to location of emergency manager/supervisor to support emergency response
 - other support activities as directed by Avalanche Acid Hauling Ltd. Management
- Execute response to media if required
- Resource other Avalanche Acid Hauling Ltd. staff as required by the type and severity of the emergency

HSE COORDINATOR RESPONSIBILITIES

- Receive emergency information from Avalanche Acid Hauling Ltd. Management/supervisors
- Provide emergency assistance as directed by management/supervisors
- Maintain a detailed log of all incoming/outgoing calls during the emergency. Refer to emergency call log in this section
- Conduct post incident response for Avalanche Acid Hauling Ltd.
- Collect all data from Employee on scene
- Conduct incident/accident investigation and follow-up recommendations
- Communicate results from investigation as required may include various reports to
 - Avalanche Acid Hauling Ltd. Management
 - Clients
 - OH&S
 - WCB
 - Insurance companies (Avalanche Acid Hauling Ltd. or third party involved)
 - RCMP
 - ERCB
 - Alberta Environment
 - Transportation Canada
 - Alberta Government Agencies
- File all data pertaining to the incident once investigated and communicate root causes and corrective action to all employees of the company

EMERGENCY SPILL RESPONSE PLAN

Emergency Spill Flow Chart



DEFENSIVE DRIVING

WHY 30KM?

PLAYGROUND ZONES

30 km/h between 7:30am-9pm every day where playground zone signs are posted. Once the signs are up, the 30 km/hr speed limit is in effect.

Playground zone signs have been installed at 164 stand-alone playgrounds and all 243 schools zones have become playground zones for a total of 407 playground zones.

LONGER 30 KM/H ZONES AND HOURS

Previous school zones may not have included the school's playground area or sports fields, so the new 30 km/h playground zone signs may be posted to incorporate them.

30 km playground zones are from 7:30am to 9pm (7:30-21:00) everyday, not just school days. Extending the hours:

- Protects children attending after-hour activities at schools
- Reduces driver confusion around changing hours in different zones
- Creates consistent start and end times city-wide where our children play

LONG/COMBINED PLAYGROUND ZONES

Where only a short distance would exist between playground areas, playground zones will be combined for an extended playground zone that covers the entire stretch. This prevents possible driver confusion from speeding up and slowing down multiple times in a short distance.

An example is 144 Avenue where Kildare School, Father Leo Green Junior High and Londonderry Junior High are one after another. Creating a single 30 km/h zone makes sense.

In the evening or on a weekend when school zones wouldn't be in effect, the longest playground zone (800 m) will add 48 seconds to a person's travel time. The average playground (200 m) adds about 12 seconds.

Where and when possible, driver feedback signs will be installed in long 30 km/h zones.

WHY IS IT IMPORTANT TO SLOW DOWN?

Stopping Distances - Ideal Conditions

- When the roads are wet or icy, you need 5 extra meters at 30 km/h and 10 extra meters at 50 km/h in order to stop safely



Since the implementation of school zones, collisions in school zones have been reduced by 13%. Injuries and fatalities have been reduced by 42% and injuries to vulnerable road users has gone down by 71%.

DEFENSIVE DRIVING

VULNERABLE ROAD USERS

When children are struck by vehicles, their injuries often result in life threatening or permanent damage. The faster a vehicle is moving, the greater the impact and the more devastating the results.

Children:

- Aged 5 to 14 years are at the greatest risk for pedestrian-related deaths
- Aged 10 to 14 years have the highest incidence of pedestrian-related injuries
- Have difficulty judging the speed and distance of cars
- Believe if they can see a car, the driver can see them
- Assume a car can stop instantly
- Have a limited peripheral vision, and
- Have a limited sense of danger

Approximate survival rate for pedestrians hit by a vehicle at:

- 30 km/h - 90% (9 of 10)
- 40 km/h - 60% (6 of 10)
- 50 km/h - 20% (2 of 10)
- 60 km/h - 2.5% (0 of 10)

A 30 km/hr impact is the equivalent of falling from a second story window (3.5 metres). A collision at 50 km/hr is like falling from a fourth floor window (9.8 metres).

CAUTION

Streets around schools are often very congested with parents dropping off their children, and the number and size of vehicles might mean you don't see kids trying to cross the street.

- Young children may dart out from in between vehicles unexpectedly, so use extra caution particularly during drop off and pick up times
- Speed limits are strictly enforced by both the Edmonton Police Service and the City of Edmonton

INJURY STATISTICS ON TRAFFIC INJURIES TO CHILDREN

In the last five years, there have been 176 injury collisions involving children aged 15 years or younger on collector and local roadways (non-arterial).

- 37% (65) of those collisions occurred in areas that will be covered by the proposed playground zones (even though, playground zones would constitute only 7% of the entire collector and local road network)
- 20% of those injured in those 65 collisions required hospitalization
- 99% of the 65 injury collisions happened between 7:30am-9pm (the proposed hours of playground zones)

CAUTION, SCHOOL IN THE AREA

Yellow School Zone Sign commonly known as a school zone sign, is sometimes seen without the speed-limit posted below it. This sign means, "Caution, school in the area". You will see these signs where schools are located on arterial roads and the 30 km/h speed limit does not apply. However, caution is advised.



SAFETY ALERT

POTENTIAL FOR SERIOUS INJURY OR COLLISION

SUBJECT: DRIVER FATALLY STRUCK BY A TRUCK IN THE YARD

DATE: 8.27.2018

ALERT NUMBER:

How the Incident Occurred

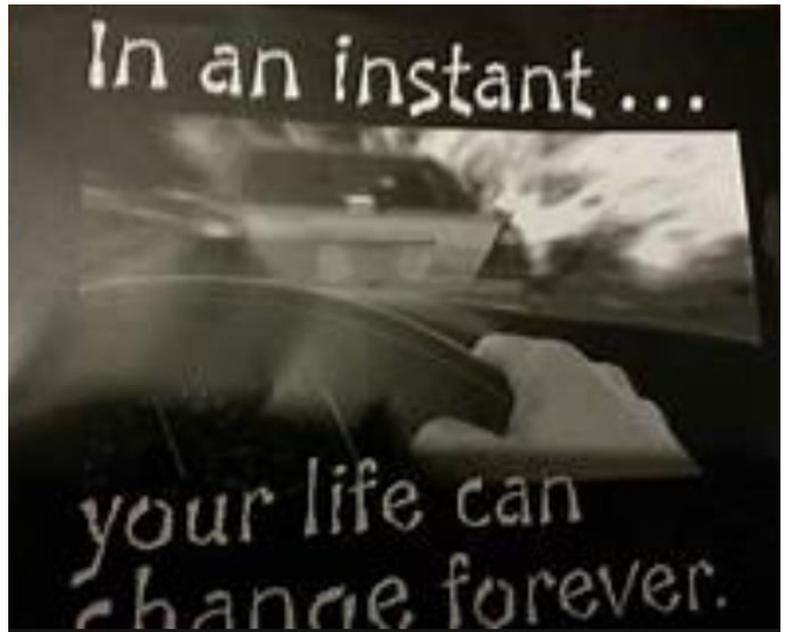
Over the weekend, Toyota X-dock in Woodstock suffered a tragic event. . An over the road driver was walking across the yard from his truck and was struck and killed by another driver operating in the yard. This incident occurred at approximately 2:15 am Saturday morning. The driver involved in the incident did not see the driver and as a result struck him with his truck.

Prevention Factors:

We can't take **SAFETY FOR GRANTED**. Everyone needs to make sure we are paying attention to all safety rules and procedures. Make sure that

- You are familiar with plant and yard safety rules for the customer location
- When driving through the yard make sure to **FOLLOW POSTED SPEED LIMIT**. (Be prepared to react)
- **Do not** exit safety of your truck unless you are wearing appropriate PPE (Reflective Safety Vest , Safety Footwear)
- Stay close to trailers or parked trucks when walking across the yard. **DO NOT CUT ACROSS LANEWAYS**
- **STOP and look both ways** before stepping out from between trailers into the open. Shunt trucks / Highway trucks do not expect pedestrians in the yard.
- Ensure that safety procedures are followed for parking and dock loading and unloading.

Safety.
It's no trouble at all.





MONTHLY HEALTH & SAFETY NEWSLETTER

Avalanche Acid Hauling HID/NMLog 2018



HID #	NM #	DATE	SUBMITTED BY	LOCATION	DESCRIPTION	ROOT CAUSE	FOLLOW UP ACTIONS	PERSON RESPONSIBLE	DATE CLOSED
H1838		12-Jun-18	Dave Plouffe	Vesta / Trican	Bridge deck over test iron to high.	33	More gravel on each side.	Dave Plouffe	12-Jun-18
H1839		18-Jun-18	Dave Plouffe	Vesta	Super tight location.	42	Asked for 3 spotters.	Dave Plouffe	18-Jun-18
	NM1840	20-Jun-18	Kendall Carlson	Vesta	Acid tank gauge board cable snapped on tank by BJ employee.	29	Load with caution.	Kendal Carlson	20-Jun-18
H1841		28-Jun-18	Kendall Carlson	Vesta	Tight leash have to cut the truck so tight that shower on the truck almost touching the trailer.	42	Move out all equipment that's not being used like empty trailers or even the extra reefer trucks.	Kendal Carlson	28-Jun-18
H1842		28-Jun-18	Carl Hall	Cardinal	The fittings on the pressure tank truck that was to have acid unloaded into it from acid truck were not clearly marked as stainless steel and appeared to me / driver to be aluminum. Pictures were taken and sent to my dispatcher and was informed that I would not proceed with transfer of acid until sufficient information was given to ensure they were stainless steel.	28	Manufacturer information on stamp number and what type of material fitting was constructed from and that it was safe to transfer acid with that material.	Carl Hall	28-Jun-18

AIR TOOLS

Tools/Equipment/Material Required : Tool, Compressed Air, Manufacturers Specifications

#	Job Steps	Hazards Associated	Controls	Persons Responsible
1.	Inspect area and tools for hazards and defects	- Slips, trips and falls - Pinch points	- Ensure good footing when walking around - When inspecting ensure gloves are worn to avoid pinch points	Operator / Driver / Shop Personnel
2.	Attach air tool accessory properly to attachment on hose	- Hose detaching - Flying debris	- Ensure that hoses are attached properly to prevent it from flying off	Operator / Driver / Shop Personnel
3.	Operation of tool	- High PSI - Housekeeping - Loose clothing - Flying Debris	- Do not put air tool in way of a body part - Always keep area clean to avoid trips and falls - Always wear tight clothing with no holes - Hard Hat, Safety Glasses, Gloves, Steel Toed Boots, FR Coveralls, Ear Plugs	Operator / Driver / Shop Personnel
4.	Bleed air before disconnecting tool	- High PSI - Flying Debris	- Hard Hat, Safety Glasses, Gloves, Steel Toed Boots, FR Coveralls, Ear Plugs - Ensure safety glasses are worn and keep body parts away from air	Operator / Driver / Shop Personnel

Safety Items Required		Risk Assessment	
X	Basic PPE - Hard Hat, Safety Glasses, Gloves, Steel Toed Boots, FR Coveralls, Ear Plugs		<p><u>LOW HAZARD</u></p> <p>A condition or practice likely to cause:</p> <ul style="list-style-type: none"> • A First Aid or visit to a doctor for a precaution • Minor loss or damage to property, equipment, or vehicles • Loss of company or client revenue up to \$1,000.00 • Small spill or release on site that doesn't require any regulatory reporting <p>Action to be Taken:</p> <ul style="list-style-type: none"> • The hazard may require further study and/or action to minimize potential
	SCBA/SABA	Goggles / Face Shield	
	Signs/Barriers	Apron / Rubber Gloves	
	Lock Out	Harness / Fall Protection	
	Permits	First Aid Kit	
	Ventilation	Fire Extinguisher	
	Reflective Vest	Spotter	