



### FIRST AID

- **Inhalation :**  
When safe to enter area, remove from exposure.  
Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention immediately.
- **Skin contact :**  
Remove contaminated clothing, jewelry, and shoes immediately.  
Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention, if needed.
- **Eye contact :**  
Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains. Continue irrigating with normal saline until ready to transport to hospital. Cover with sterile bandages.  
Get medical attention immediately.
- **Ingestion :**  
Contact local poison control center or physician immediately.  
Never make an unconscious person vomit or drink fluids.  
When vomiting occurs, keep head lower than hips to help prevent aspiration.  
If person is unconscious, turn head to side. Get medical attention immediately.
- **Antidote : Amyl Nitrite**  
Inhalation(Sodium Nitrite), Intravenous(Sodium Thiosulfate), Infusion(oxygen)
- **Medical Treatment (The medical treatment should be administered by a physician) :**  
Please refer to the items printed on the antidote box for a remedy against poisoning.  
Put the broken tablet of Amyl Nitrite to patient's nose for fifteen seconds, during the preparation for an injection of Sodium Nitrite & Sodium Thiosulfate.  
After the discontinuance of Amyl nitrite treatment, ten cubic centimeter of three percent of Sodium Nitrite should be given by venous injection to the patient at the rate of 2.5cc per a minute. and then fifty cubic centimeters of twenty five percent of Sodium Thiosulfate should be injected at the same rate as the above, while monitoring the patient for signs of congestion. The second remedy should be used in a quantity of half as much of first dosage after two hours from the start of treatment. However, a dosage of Methylene Blue is forbidden if the patient has been treated with Amyl Nitrite.
- **First aid treatment according to the patient's situation :**
  - (1) If the patient is conscious and breathing  
Put the broken tablet of Amyl Nitrite to patient's nose five times at an interval of 15 seconds. If necessary, it's possible to change the tablet with a new one every five minutes. It's possible to use three or four tablets by changing them.



- (2) If a patient swallows Sodium Cyanide.  
In case of swallowing Sodium Cyanide, it's necessary to induce vomiting in the patient through the use of an emetic such as one percent of Sodium Thiosulfate or Soapywater.



- (3) If the patient is unconscious but breathing  
Never give anything by mouth to unconscious patient.  
Put the broken tablet of Amyl Nitrite to patient's nose for fifteen seconds, and repeat this procedure five times at an interval of fifteen seconds.  
Have a patient inhale oxygen when he shows no progress toward recovery.  
And it's possible to give oxygen inhalations to a patient at an interval of 15 seconds, after inserting Amyl Nitrite on the edge of the oxygen resuscitator.  
If necessary, it's possible to change the tablet with new one every three minutes.  
It's possible to use three or four tablets by changing them.

- (4) If the patient is not breathing.  
Practise artificial respiration until the patient begins to breathe.  
When a patient begins to breathe the first aid administered should be with Amyl Nitrite.



### FIRE FIGHTING MEASURES

- **Extinguishing media :**  
Adequate extinguishing media : regular dry chemical, water, regular foam  
Large fire : Use regular foam or flood with fine water spray.  
Inadequate extinguishing media : Carbon dioxide
- **Specific hazards arising from the chemical :**
  - Pyrolysis product: cyanide compounds
  - Fire and Explosion Hazards : N/A
- **Fire fighting :**  
Fire Fighters should wear self contained breathing apparatus and adequate protective clothing if risk of exposure to products of decomposition.  
If safe to do so, remove containers from area of fire. Stay away from the ends of tanks  
Extinguish large fire in safe area and safe distance. Dike for later disposal. Don't spray exposed material with high pressured water directly to prevent dispersing this material.

### ENVIRONMENTAL PROTECTION

- **Air :** Indirectly spray with water and decrease vapor from this spilled material.  
Dispose the potential hazard waste of the spilled material and collect.
- **Soil :** Secure the area such as dike and pit for store.  
Cover the spilled material with plastic sheet and waterproof cloth to minimize spreading and keep out of water.
- **Water :** Put oxidizing agent such as dilute sodium hypochlorite, calcium hypochlorite into the contaminated water. Add the alkaline material such as lime and soda ash supplementarily.

### HANDLING & STORAGE

- **Handling :**
  - Make sure that NaCN solid or solution does not come into direct contact with the body.  
Use rubber gloves, aprons, boots, goggles and other protective items when handling.
  - Be sure not to inhale air containing sodium cyanide powder or cyanic acid vapor.  
Cyanic acid vapor is especially dangerous since it does not have a sharp odor and is difficult to be detected. Wear dust-proof masks or gas mask when necessary.
  - Do not handle the material near places where acids is handled since acid reacts with sodium cyanide and forms cyanic acid vapor.
  - Remove immediately by washing in case sodium cyanide solution is spilled since cyanic acid vapor is also formed by the reaction with carbonic acid gas in the air.
  - Provide ventilation equipment in areas where sodium cyanide is handled for a long time.
  - The handling area should be such an easy-to-wash concrete floor.  
Use a treatment tank for drain water.
  - This material should be handled by at least two workers to watch the situation with each other.
  - Do not eat foods or drink beverage in the same area where sodium cyanide is handled.
  - The workers must take a bath or shower and change their clothes after the work.
- **Storage :**
  - Must be stored in a cool, dry, well ventilated place, in a special locked storeroom and out of direct sunlight
  - Must not be stored in any place where acidic gases may be generated or, acid, nitrates or nitrites are stored.
  - When the packages is not opened, no special ventilation equipment is not required.  
But avoid long term storage once sodium cyanide is dissolved or the chemicals comes into contact with air.

### EXPOSURE CONTROLS

Occupation Exposure Limit : ACGIH Regulation : TLV-TWA - 5mg/m<sup>3</sup>  
Adequate exposure control : Ensure compliance with applicable exposure limit.

### PERSONAL PROTECTION



### RESPIRATOR

Use NIOSH(U.S.A) & OSHA(U.S.A) Approved respirator whenever necessary.  
Self contained breathing apparatus is preferred.  
Eye protection : Wear splash resistant safety goggles with a facepiece.  
Provide an emergency eye wash fountain and quick drench shower in the immediate work area.  
Gloves : Wear appropriate chemical resistant gloves.  
Clothing : Wear appropriate chemical resistant clothing.