Section: ALS Hazardous Materials
Subject: ADULT CHEMICAL TREATMENT GUIDE 8A: PURPLE
Section #: 346.11
Issue Date: March 21, 2011
Revision Date:
Approved By:  Michael Lozano, Jr., M.D., HCFR Medical Director

1. Covered Substances
    a. Ketones
    b. Phosphine

2. Signs and Symptoms
    a. Hypovolemic shock and collapse, tachycardia with weak pulse, non-cardiogenic pulmonary edema, asphyxia, chemical pneumonitis, upper airway obstruction with stridor, pain and cough, decreased LOC, nausea/vomiting, diarrhea, possible GI bleeding, and possible blindness. HF also causes severe skin burns. The damage may be severe with no outward signs, except that the patient will complain of severe pain out of proportion to the physical exam.

3. General Supportive Care
    a. Ensure that personnel are using appropriate PPE.
        i. Obtain HIT assistance if needed.
    b. Decontamination:
        i. Remove the patient from the hazardous area.
            1. If victims can walk, lead them out of the Hot Zone to the Decon Zone.
            2. Victims who are unable to walk may be removed on backboards or gurneys; if these are not available carefully drag victims to safety.
            3. Consider appropriate management of chemically contaminated children, such as measures to reduce separation anxiety.
        ii. Victims who are able may assist with their own decontamination.
            1. Remove contaminated clothing while flushing exposed areas.
            2. Double-bag contaminated clothing and personal belongings.
        iii. If indicated, irrigate exposed or irritated eyes with plain water or saline for at least 15 minutes.
            1. Remove contact lenses if easily removable.
            2. Do not cover the eyes with bandages.
    c. Initiate medical / trauma supportive care as indicated.
    d. Contact Poison Information Center (1-800-222-1222).
    e. If the patient has signs and symptoms of pulmonary edema, maintain adequate ventilation and oxygenation.
        i. Non-cardiogenic pulmonary edema should NOT be treated with furosemide.
        ii. It intubated, use positive end expiratory pressure (PEEP) per protocol.
        iii. If spontaneously breathing, apply CPAP at the lowest level needed to alleviate the dyspnea.

4. Paramedic Level Care
    a. For inhalation exposures immediately initiate aggressive ventilatory support.
    b. Hydrofluoric acid will leach the calcium out of the blood leading to systemic hypocalcemia in severe cases. If dysrhythmias develop, treat with the appropriate HCFR Standing Order.
    c. Treat hypotension with vasopressors rather than with fluids unless there are signs and symptoms of hypovolemic shock.
        i. Dopamine starting at 5.0 mcg/kg/min IV and titrating to SBP > 100 mmHg in adults or the lower end of the normal range adjusted for age in pediatric patients (max dose 20 mcg/kg/min).

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5. MSOT – Medic Level Care
    a. If the patient has burns to the eye(s):
        i. Prepare an eye wash solution by mixing **calcium gluconate** (10%) 50 ml with saline 500 ml.
        ii. Instill calcium gluconate eye wash and continue until arrival at the receiving facility.
    b. If the patient has burns to the skin:
        i. Prepare a skin gel by mixing **calcium gluconate** (10%) 10 ml into a 2 oz tube of **KY jelly** – this creates a 2.5% gel.
        ii. Apply the 2.5% **calcium gluconate gel** on the burned area.
        iii. For burns to the hand(s) place hand in glove filled with the **calcium gluconate gel**.
    c. Treat hypotension with vasopressors rather than with fluids unless there are signs and symptoms of hypovolemic shock.
        i. **Phenylephrine** (Neo-synephrine™)
            1. Adults: 100 – 180 mcg/min IV as a brief initial infusion until the blood pressure stabilizes, with dosage titrated to a mean arterial pressure (MAP) of 75 – 100 mmHg.
                a. The usual maintenance infusion rate ranges between 40 and 60 mcg/min IV.
            2. Pediatrics: 20 mcg/kg IV bolus, followed by an initial IV infusion of 0.1 – 0.5 mcg/kg/min, with dosage titrated to a mean arterial pressure (MAP) of 75 – 100 mmHg.