

**HAZARDOUS MATERIALS EMERGENCIES  
H-1 / HAZARDOUS MATERIALS EXPOSURE**

**GENERAL PROCEDURES**

**PRIORITIES**

- Safety of rescuers; Do **NOT** add to the number of victims (park EMS units upwind and/or uphill, do **NOT** walk or drive through spilled materials; do **NOT** enter contaminated areas; do **NOT** take unnecessary risks that may lead to contamination.
- **DECONTAMINATION takes priority over medical interventions and/or transport.**
- ABCs
- Obtain information about the nature of the hazardous material.
- Early transport/Base notification (after initiating therapy, if appropriate)
- **EARLY CONTACT OF RECEIVING HOSPITAL.**

**JUNE 2006**

**PATIENT TREATMENT GUIDELINES**

- Evaluate breathing and use advanced airways as necessary;
- **OXYGEN** – high flow;
- Intubation or the use of an advanced airway adjunct should be considered if the victim develops severe respiratory distress;
- If indicated, continue flushing contaminated skin with water or NS;
- Cardiac monitor
- **IV** access;
- Treat exposures per specific guidelines on subsequent pages;
- For wheezing, **ALBUTEROL** 2.5 mg by HHN.

**DISRUPTED COMMUNICATIONS**

**In the event that a Solano County EMT-P is UNABLE to make physician contact for orders, the paramedic MAY NOT utilize those areas of the protocol needing physician direction and MUST TRANSPORT IMMEDIATELY TO THE CLOSEST FACILITY.**

**HAZARDOUS MATERIALS EMERGENCIES**  
**H-1 / HAZARDOUS MATERIALS EXPOSURE**  
**H 1-2 - SPECIFIC TREATMENTS**

<p><b>IRRITANT GASES (Acids, Ammonia, Chlorine)</b></p> <ul style="list-style-type: none"> <li>➤ If indicated, continue flushing contaminated skin with water or NS.</li> <li>➤ Consider: <ul style="list-style-type: none"> <li>➤ IV Therapy, fluid boluses if needed for hypotension, otherwise TKO;</li> <li>➤ For wheezing, <b>ALBUTEROL</b> 2.5 mg by HHN.</li> </ul> </li> <li>➤ Do not induce vomiting;</li> <li>➤ If evidence of oral injury do not use the EOA or <b>combitube</b> as an airway adjunct.</li> </ul>	<p><b>HYDROFLUORIC ACID</b></p> <ul style="list-style-type: none"> <li>➤ IV Therapy, fluid boluses if needed for hypotension;</li> <li>➤ Do NOT induce vomiting; immediately dilute with 1 glass of water or milk in patients who are awake and have an intact gag reflex;</li> <li>➤ Ingestion can cause serious corrosive injury to the esophagus and stomach. The EOA or <b>combitube</b> should not be considered as an airway adjunct;</li> <li>➤ <b>BASE CONTACT:</b> <ul style="list-style-type: none"> <li>➤ <b>CALCIUM CHLORIDE</b> 5cc 10% solution IV for hypocalcemic tetany (severe muscle spasms) or cardiac arrest or prophylactic for victims with high concentration (10 – 20%) exposure to &gt;3 – 5% body surface area.</li> <li>➤ Specific soaking solution or fluoride binding agent. After initial basic decontamination, solutions of <b>Epsom salts</b> (magnesium sulfate), <b>lime water</b> (calcium hydroxide) or iced <b>Hyamin Magnesiums</b>, <b>Calcium</b> containing antacids or gels may also be considered. Some industries may have these substances available for emergency treatment at the scene. <b>The above treatments are not carried by EMS units but EMT-P's should continue these treatments if they have been initiated.</b></li> </ul> </li> </ul>
<p><b>SMOKE INHALATION / CARBON MONOXIDE</b></p> <ul style="list-style-type: none"> <li>➤ High flow <b>OXYGEN</b> with non-rebreathing mask and/or ventilation assistance with 100% <b>OXYGEN</b> as indicated;</li> <li>➤ IV therapy, fluid boluses if indicated for hypotension;</li> <li>➤ For wheezing, <b>ALBUTEROL</b> 2.5 mg by HHN, may repeat X1 for severe distress;</li> <li>➤ <b>DOPAMINE ONLY WITH BASE PHYSICIAN ORDER</b> if patient does not respond to fluid challenges for hypotension.</li> </ul>	<p><b>ARSINE / PHOSPHINE GAS EXPOSURE</b></p> <ul style="list-style-type: none"> <li>➤ High Flow <b>OXYGEN</b> with non-rebreathing mask and/or ventilation assistance as indicated.</li> <li>➤ With Arsine gas exposures, massive hemolysis may occur causing the urine to appear dark orange, red or brown. If an uncontaminated urine sample is available the color should be noted and the sample saved.</li> <li>➤ IV NS 500 cc bolus for Arsine exposure with severe hemolysis.</li> <li>➤ Base Physician should consider alkalization of urine.</li> </ul>

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**H-1 / HAZARDOUS MATERIALS EXPOSURE**  
**H 1-3 - SPECIFIC TREATMENTS**

<p><b>CYANIDE</b></p> <ul style="list-style-type: none"> <li>➤ High flow <b>OXYGEN</b> with non-rebreathing mask and/or ventilation assistance, as indicated.</li> <li>➤ IV therapy, fluid boluses if needed for hypotension;</li> <li>➤ <b>CYANIDE ANTIDOTE KIT</b> – some industries may have this kit available for emergency treatment at the scene. <b>The kit is not carried by EMS units but treatment may be administered by EMT-P’s if so directed by the Base Station Physician.</b></li> </ul>	<p><b>HYDROGEN SULFIDE, SULFIDES and MERCAPTANS</b></p> <ul style="list-style-type: none"> <li>➤ High flow <b>OXYGEN</b> with non-rebreather mask and/or ventilation assistance as indicated.</li> <li>➤ Irrigate injured eyes;</li> <li>➤ IV therapy, fluid boluses if indicated for hypotension;</li> </ul>
<p><b>PETROLEUM DISTILLATES &amp; HALOGENATED HYDROCARBON SOLVENTS</b></p> <ul style="list-style-type: none"> <li>➤ High flow <b>OXYGEN</b> with non-rebreathing mask and/or ventilation assistance with 100% <b>OXYGEN</b> as needed.</li> <li>➤ Irrigate injured eyes;</li> <li>➤ <b>IV</b> Therapy, fluid boluses if indicated for hypotension;</li> <li>➤ <b>DO NOT INDUCE VOMITING.</b></li> <li>➤ Arrhythmias may be delayed for up to 12-24 hours after exposure to halogenated hydrocarbon solvents. Avoid administration of <b>EPINEPHRINE</b> or <b>BRONCHODILATORS</b>;</li> <li>➤ Solvent exposure alone rarely causes loss of consciousness except in cases of cardiac arrhythmia or in cases of overwhelming hypoxia in a confined space.</li> </ul>	<p><b>PESTICIDES – CARBAMATES &amp; ORGANOPHOSPHATES</b></p> <ul style="list-style-type: none"> <li>➤ High flow <b>OXYGEN</b> with non-rebreathing mask and/or ventilation assistance as indicated.</li> <li>➤ <b>IV</b> therapy TKO</li> <li>➤ <b>DO NOT INDUCE VOMITING;</b></li> <li>➤ For cholinergic symptoms, <b>ATROPINE</b> 0.5 – 2.0 mg slow IVP initially. If no tachycardia or pupil dilation, use larger doses to control secretions and bronchospasm. May repeat doses of 2 – 4 mg IVP every 3-10 minutes as needed.</li> <li>➤ Seizures should be controlled with <b>MIDAZOLAM</b> 2mg IV or 4mg IM for actively seizing patients.</li> </ul>
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