



Emergency Preparedness & Response

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NIOSH EMERGENCY RESPONSE CARD

BLOOD AGENT

POTASSIUM CYANIDE

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UN #: [1680](#) (Guide 157) Hydrocyanic acid, potassium salt; Cyanide of potassium Potassium salt of hydrocyanic acid

CAS #: 151-50-8 Chemical Formula: KCN

RTECS #: [TS8750000](#) Molecular mass: 65.1

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| TYPES OF HAZARD/ EXPOSURE | ACUTE HAZARDS/ CLINICAL SIGNS/ SYMPTOMS | PREVENTION/ PERSONAL PROTECTIVE EQUIPMENT | FIRST AID/ FIRE FIGHTING |
|---------------------------|---|---|--|
| FIRE | Not combustible but forms flammable gas on contact with water or damp air. Gives off irritating or toxic gases (hydrogen cyanide and oxides of nitrogen) in a fire. | N/A | In case of fire in the surroundings: foam and powder. NO hydrous agents. NO water. NO carbon dioxide. |
| EXPLOSION | N/A | N/A | In case of fire: cool drums, etc., by spraying with water but avoid contact of the substance with water. |

ROUTE OF EXPOSURE

Public Inquiries
 English (888) 246-2675
 Español (888) 246-2857
 TTY (866) 874-2646
 Mon-Fri 8am-11pm EST
 Sat-Sun 10am-8pm EST

Centers for Disease Control and Prevention
 1600 Clifton Rd.
 Atlanta, GA 30333
 USA
 (404) 639-3311



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| <p>Synopsis:</p> | <p>N/A</p> | <p>PREVENT DISPERSION OF DUST!</p> <p>STRICT HYGIENE!</p> <p>Avoid any skin contact.</p> | <p>Seek medical attention immediately.</p> <p>Triage procedures and medical management guidelines - see ATSDR Toxicology Profile on cyanide and ATSDR medical management guidelines on hydrogen cyanide.</p> |
| <p>Inhalation:</p> | <ul style="list-style-type: none"> • Headache • Dizziness • Confusion • Nausea • Shortness of breath • Convulsions • Vomiting • Weakness • Anxiety • Irregular heart beat • Tightness in the chest • Unconsciousness • Effects may be delayed. | <p>Ventilation, local exhaust, or breathing protection.</p> <p>Pressure demand, self-contained breathing apparatus (SCBA) (SCBA CBRN, if available) is recommended in response to non-routine emergency situations.</p> <p>CBRN, Full Facepiece APR (when available) is recommended in non-routine, emergency situation environments less than IDLH but above REL or PEL levels.</p> | <p>Fresh air, rest. Artificial respiration if indicated. Avoid mouth-to-mouth resuscitation.</p> <p>Seek medical attention immediately.</p> <p>Triage procedures and medical management guidelines - see ATSDR Toxicology Profile and ATSDR medical management guidelines on hydrogen cyanide.</p> |

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| <p>Skin:</p> | <p>MAY BE ABSORBED! Burning sensation. Pain. Skin burns.</p> <p><i>(See Inhalation for other symptoms.)</i></p> | <p>Avoid any skin contact.</p> <p>Butyl rubber gloves. Teflon, Responder, or Tychem Protective clothing.</p> | <p>Remove contaminated clothes. Rinse skin with plenty of water or shower.</p> <p>Seek medical attention immediately.</p> |
| <p>Eyes:</p> | <p>Redness. Pain. Severe deep burns. May be absorbed.</p> <p><i>(See Inhalation for other symptoms.)</i></p> | <p>Safety goggles, face shield, or eye protection in combination with breathing protection.</p> | <p>First rinse with plenty of water for 5 minutes.</p> <p>Seek medical attention immediately.</p> |
| <p>Ingestion:</p> | <p>Burning sensation. Nausea. Vomiting. Diarrhea.</p> <p><i>(See Inhalation for other symptoms.)</i></p> | <p>Do not eat, drink, or smoke during work. Wash hands before eating.</p> | <p>Do not induce vomiting.</p> <p>Seek medical attention immediately.</p> |

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| <p>OCCUPATIONAL EXPOSURE LIMITS (OELs):</p> | <p>OSHA PEL*: TWA 5 mg/m³ *Note: The PEL also applies to other cyanides (as CN) except Hydrogen cyanide NIOSH REL: C 5 mg/m³ (4.7 ppm) 10-minute *Note: The REL also applies to other cyanides (as CN) except Hydrogen cyanide. NIOSH PG 0522 ACGIH TLV (as CN): 5 mg/m³ (ceiling values) (skin) (ACGIH 2002). MAK as CN: 5 mg/m³; H (1996). NIOSH IDLH: 25 mg/m³ (as CN)</p> |
| <p>SAMPLING AND ANALYTICAL METHODS:</p> | <p>NIOSH 6010 (HYDROGEN CYANIDE) NIOSH 7904 (CYANIDES, aerosol and gas)</p> |

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| <p>DECONTAMINATION</p> | <p>Patients/victims: Wet contaminated clothing should be removed and the underlying skin washed with soap and water or water alone for 2-3 minutes.</p> <p>Equipment: N/A</p> <p>Environment: <i>(See Spillage Disposal.)</i></p> |
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| <p>SPILLAGE DISPOSAL</p> | <p>Evacuate danger area! Consult an expert! Eliminate all ignition sources (no smoking, flares, sparks, or flames) in the immediate area. Ventilation. Do NOT wash away into sewer. Sweep spilled substance into dry sealable containers, then remove to safe place. Never direct contact with water.</p> <p>(Extra personal protection: complete protective clothing including self-contained breathing apparatus).</p> <p>Storage: Separated from acids, food and feedstuffs. Dry. Keep in a well-ventilated room.</p> |
| <p>PACKAGING & LABELLING</p> | <p>UN# 1680 (Guide 157)</p> <p>Airtight. Unbreakable packaging; put breakable packaging into closed unbreakable container.</p> <p>Do not transport with food and feedstuffs. Marine pollutant.</p> <p>Note: A</p> <p>T+ symbol</p> <p>R: 26/27/28-32</p> <p>S: 1/2-7-28-29-45</p> <p>Hazard Class: 6.1</p> <p>Packing Group: I</p> <p style="text-align: center;">NFPA 704 Signal:</p> <p style="text-align: center;">Health - 3 Flammability - 0 Reactivity - 0 Special -</p> |

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| <p>IMPORTANT DATA</p> | <p>PHYSICAL STATE; APPEARANCE: White granular powder or hygroscopic crystals or solid with characteristic odor.</p> <p>PHYSICAL DANGERS:</p> <p>Contact with metals may produce flammable hydrogen gas.</p> <p>CHEMICAL DANGERS: The substance decomposes on contact with water, humidity, carbon dioxide and acids, producing very toxic hydrogen cyanide gas. The solution in water is a strong base, it reacts violently with acid and is corrosive. Nitrogen trichloride explodes on contact with potassium cyanide. A mixture of potassium cyanide and nitrites may explode. When heated to</p> |
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| | <p>decomposition, toxic gases of hydrogen cyanide and oxides of nitrogen are emitted.</p> <p>ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation, through the skin and by ingestion.</p> <p>INHALATION RISK: Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.</p> <p>EFFECTS OF SHORT-TERM EXPOSURE: Potassium cyanide damages the tissues of the eyes, skin, respiratory tract and the oral and gastrointestinal tract. Cyanides poison the vital organs of the body (for example the lungs and heart) including areas of the brain that regulate proper functioning of those organs. Exposure may result in convulsions, unconsciousness and in death. Medical observation is indicated.</p> <p>EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: N/A</p> |
| <p>PHYSICAL PROPERTIES</p> | <p>Melting Point: 1173.2°F (634°C) Boiling Point: 2957°F (1625°C) Vapor Pressure (20°C): Negligible Relative density (water = 1): 1.52 Density (20°C): g /cm³ Volatility: Negligible at 20°C Specific Gravity: 1.55 Aqueous Solubility (20°C): 71.6 g/100 ml estimated log K_{ow}: N/A Flashpoint: N/A Flammability: N/A</p> |
| <p>ENVIRONMENTAL DATA</p> | <p>This substance may be hazardous to the environment; special attention should be given to water.</p> |

| ACUTE EXPOSURE GUIDELINES (AEGLs) | 10 min | 30 min | 1hr | 4 hr | 8 hr | |
|-----------------------------------|--|--------|-----|------|------|-----|
| | AEGL 1 (discomfort, non-disabling) | N/A | N/A | N/A | N/A | N/A |
| | AEGL 2 (irreversible or other serious, long-lasting effects or impaired ability to escape) | N/A | N/A | N/A | N/A | N/A |
| | AEGL 3 (life-threatening effects or death) | N/A | N/A | N/A | N/A | N/A |

NOTES

The occupational exposure limit value should not be exceeded during any part of the working exposure. Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available. The odor warning when the exposure limit value is exceeded is insufficient. Do NOT take working clothes home.

ADDITIONAL INFORMATION

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| GLOSSARY OF ACRONYMS | <p>APR - Air-purifying Respirator CBRN - Chemical, Biological, Radiological, Nuclear IDLH - Immediately Dangerous to Life and Health REL - Recommended Exposure Limit PEL - Permissible Exposure Limit SCBA - Self-Contained Breathing Apparatus</p> |
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| IMPORTANT NOTICE: | <p>POTASSIUM CYANIDE (ERC151-50-8) The user should verify compliance of the cards with the relevant STATE or TERRITORY legislation before use. NIOSH, CDC 2003</p> |
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