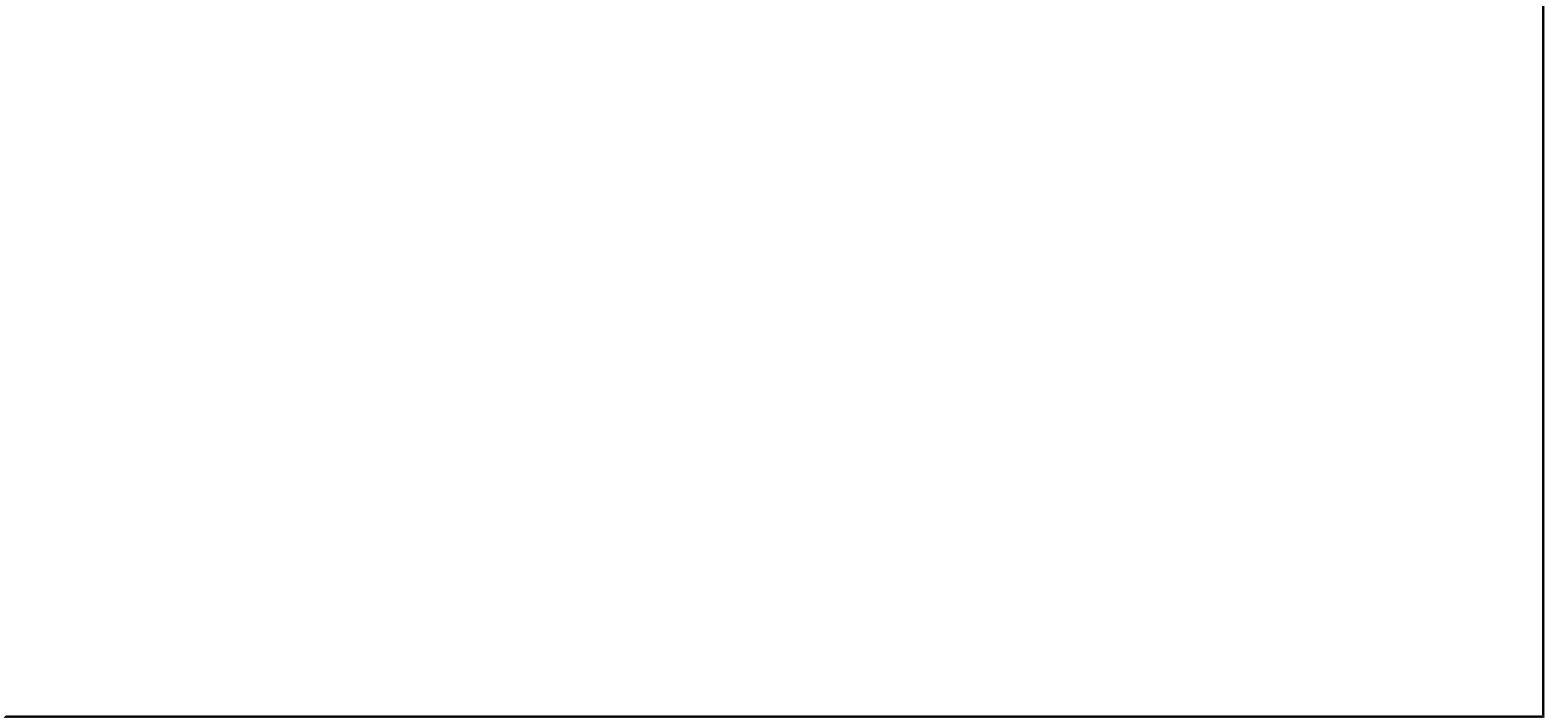

Products of Combustion: These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances:
Highly flammable in presence of open flames and sparks, of heat. Slightly flammable to flammable in presence of oxidizing materials. Non-flammable in presence of shocks, of reducing materials, of combustible materials, of organic materials, of metals, of acids, of alkalis.

Explosion Hazards in Presence of Various Substances:
Slightly explosive in presence of open flames and sparks, of acids. Non-explosive in presence of shocks.

Fire Fighting Media and Instructions:
Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog.

Special Remarks on Fire Hazards:
Containers should be grounded. CAUTION: MAY BURN WITH NEAR INVISIBLE FLAME Vapor may travel considerable distance to source of ignition and flash back. May form explosive mixtures with air. Contact with Bromine pentafluoride is likely to cause fire or explosion. Ethanol ignites on contact with chromyl chloride. Ethanol ignites on contact with iodine heptafluoride gas. It ignites than explodes upon contact with nitrosyl perchlorate. Additon of platinum black catalyst caused ignition. (Ethyl alcohol 200 Proof)

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:
Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
Ethyl alcohol 200 Proof TWA: 1000 (ppm) from ACGIH (TLV) [United States] [1999] TWA: 1000 (ppm) from OSHA (PEL) [United States] TWA: 1900 (mg/m3) from OSHA (PEL) [United States] TWA: 1000 (ppm) from NIOSH TWA: 1000 (ppm) [United Kingdom (UK)] TWA: 1920 (mg/m3) [United Kingdom (UK)] TWA: 1000 STEL: 1250 (ppm) [Canada] Isopropyl alcohol TWA: 983 STEL: 1230 (mg/m3) [Australia] TWA: 200 STEL: 400 (ppm) from ACGIH (TLV) [United States] [1999] TWA: 980 STEL: 1225 (mg/m3) from NIOSH TWA: 400 STEL: 500 (ppm) from NIOSH TWA: 400 STEL: 500 (ppm) [United Kingdom (UK)] TWA: 999 STEL: 1259 (mg/m3) [United Kingdom (UK)] TWA: 400 STEL: 500 (ppm) from OSHA (PEL) [United States] TWA: 980 STEL: 1225 (mg/m3) from OSHA (PEL) [United States] Methyl alcohol TWA: 200 from OSHA (PEL) [United States] TWA: 200 STEL: 250 (ppm) from ACGIH (TLV) [United States] [1999] STEL: 250 from NIOSH [United States] TWA: 200 STEL: 250 (ppm) from NIOSH SKIN TWA: 200 STEL: 250 (ppm) [Canada] Hydrogen chloride STEL: 7.5 (mg/m3) from ACGIH (TLV) [United States] STEL: 5 (ppm) from ACGIH (TLV) [United States] CEIL: 5 (ppm) from NIOSH CEIL: 7.5 (mg/m3) from NIOSH CEIL: 5 (ppm) from OSHA (PEL) [United States] CEIL: 7 (mg/m3) from OSHA (PEL) [United States]3Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Not available.

Taste: Not available.

Molecular Weight: Not applicable.

Color: Not available.

pH (1% soln/water): Neutral.

Boiling Point: The lowest known value is 64.5°C (148.1°F) (Methyl alcohol). Weighted average: 83.91°C (183°F)

Melting Point:

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources (flames, sparks, etc.), incompatible materials

Incompatibility with various substances:
Reactive with oxidizing agents, acids, alkalis. Slightly reactive to reactive with metals.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:
Ethanol rapidly absorbs moisture from the air. Can react vigorously with oxiders. The following oxidants have been demonstrated to undergo vigorous/explosive reaction with ethanol: barium perchlorate, bromine pentafluoride, calcium hypochlorite, chloryl perchlorate, chromium trioxide, chromyl chloride, dioxygen difluoride, disulfuryl difluoride, fluorine nitrate, hydrogen peroxide, iodine heptafluoride, nitric acid nitrosyl perchlorate, perchloric acid permanganic acid, peroxodisulfuric acid, potassium dioxide, potassium perchlorate, potassium permanganate, ruthenium(VIII) oxide, silver perchlorate, silver peroxide, uranium hexafluoride, uranyl perchlorate. Ethanol reacts violently/expodes with the following compounds: acetyl bromide (evolves hydrogen bromide) acetyl chloride, aluminum, sesquibromide ethylate, ammonium hydroxide & silver oxide, chlorate, chromic anhydride, cyanuric acid + water, dichloromethane + sulfuric acid + nitrate (or) nitrite, hydrogen peroxide + sulfuric acid, iodine + methanol + mercuric oxide, manganese perchlorate + 2,2-dimethoxy propane, perchlorates, permanganates + sulfuric acid, potassium superoxide, potassium tert-butoxide, silver & nitric acid, silver perchlorate, sodium hydrazide, sulfuric acid + sodium dichromate, tetrachlorisilane + water. Ethanol is also incompatible with platinium, and sodium. No really safe conditions exist under which ethyl alcohol and chlorine oxides can be handled. Reacts vigorously with acetyl chloride (Ethyl alcohol 200 Proof)

Special Remarks on Corrosivity:
May attack some forms of plastic, rubber and coating (Isopropyl alcohol) Corrosive. Incompatible with copper and copper alloys. It attacks nearly all metals (mercury, gold, platinium, tantalum, silver, and certain alloys are exceptions). It is one of the most corrosive of the nonoxidizing acids in contact with copper alloys. No corrosivity data on zinc, steel. Severe Corrosive effect on brass and bronze (Hydrochloric Acid)

Polymerization: Will not occur.

Special Remarks on Chronic Effects on Humans:
May affect genetic material (mutagenic) Causes adverse reproductive effects and birth defects (teratogenic) , based on moderate to heavy consumption. May cause cancer based on animal data. Human: passes through the placenta, excreted in maternal milk. (Ethyl alcohol 200 Proof)

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects: Skin: Corrosive. Causes severe skin irritation and burns. Eyes: Corrosive. Causes severe eye irritation/conjuntivitis, burns, corneal necrosis. Inhalation: Causes respiratory tract irritation with choking sensation, hoarseness, coughing, laryngeal spasms, and possible burns of the respiratory tract musoca, and may affect respiration/lungs (acute pulmonary edema, dyspnea, bronchitis, chemical pneumonitis). Material is may be destructive to tissue of the mucous membranes and upper respiratory tract. May affect the liver and sense organs (nose, eyes). May also affect brain, behavior/ central nervous system with symptoms similar to ingestion. Ingestion: Causes irritation and possible burns, ulcerations or perforation of the digestive (gastrointestinal) tract. Can cause nausea, vomiting, diarrhea, and alterations in gastric secretions. May affect the brain, behavior/central nervous system (central nervous system depression - amnesia, headache, muscular incoordination, excitation, mild euphoria, slurred speech, drowsiness, staggaring gait, fatigue, changes in mood/personality, muscle contraction or spasticity, excessive talking, dizziness, ataxia, somnolence, coma/narcosis, hallucinations, distorted perceptions, general anesthetic), peripherial nervous system (spastic paralysis), vision (diplopia). Moderately toxic and narcotic in high concentrations. May also affect metabolism, blood, liver, respiration (dyspnea), cardiovascular(cardiac

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:
Connecticut hazardous material survey.: Ethyl alcohol 200 Proof; Isopropyl alcohol; Methyl alcohol; Hydrochloric acid Illinois toxic substances disclosure to employee act: Ethyl alcohol 200 Proof; Isopropyl alcohol; Methyl alcohol; Hydrochloric acid Illinois chemical safety act: Methyl alcohol; Hydrochloric acid New York release reporting list: Methyl alcohol; Hydrochloric acid Rhode Island RTK hazardous substances: Ethyl alcohol 200 Proof; Isopropyl alcohol; Methyl alcohol; Hydrochloric acid Pennsylvania RTK: Ethyl alcohol 200 Proof; Isopropyl alcohol; Methyl alcohol; Hydrochloric acid Florida: Ethyl alcohol 200 Proof; Isopropyl alcohol Minnesota: Ethyl alcohol 200 Proof; Isopropyl alcohol; Methyl alcohol; Hydrochloric acid Massachusetts RTK: Ethyl alcohol 200 Proof; Isopropyl alcohol; Methyl alcohol; Hydrochloric acid Massachusetts spill list: Ethyl alcohol 200 Proof; Methyl alcohol; Hydrochloric acid New Jersey: Ethyl alcohol 200 Proof; Isopropyl alcohol; Methyl alcohol; Hydrochloric acid New Jersey spill list: Isopropyl alcohol; Methyl alcohol; Hydrochloric acid Louisiana RTK reporting list: Hydrochloric acid Louisiana spill reporting: Methyl alcohol; Hydrochloric acid TSCA 8(b) inventory: Ethyl alcohol 200 Proof; Isopropyl alcohol; Methyl alcohol; Water; Hydrochloric acid TSCA 4(a) proposed test rules: Hydrochloric acid TSCA 4(a) final testing order: Isopropyl alcohol TSCA 8(a) IUR: Isopropyl alcohol TSCA 8(d) H and S data reporting: Isopropyl alcohol: Effective date: 12/15/86 Sunset Date: 12/15/96 TSCA 12(b) one time export: Isopropyl alcohol SARA 302/304/311/312 extremely hazardous substances: Hydrochloric acid SARA 313 toxic chemical notification and release reporting: Isopropyl alcohol 3.625%; Methyl alcohol 3.625%; Hydrochloric acid 3% CERCLA: Hazardous substances.: Methyl alcohol: 5000 lbs. (2268 kg); Hydrochloric acid: 5000 lbs. (2268 kg);

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):