

Autoignition Temperature: 725°F

Flammable Limits: Lower Explosion Limit: 6 Upper Explosion Limit: 36.5

Extinguishing Media: Use halon, carbon dioxide or alcohol foam. Water spray or fog can cool fire, but may not be effective in extinguishing the fire.

Special Fire Fighting Procedures: Keep unnecessary people away. Isolate hazard area and deny entry. Avoid breathing vapors, stay upwind. Wear NIOSH approved self-contained breathing respirator in the positive pressure mode and chemical protective clothing specifically recommended for methanol. Use halon or carbon dioxide extinguishers or alcohol foam for small fires. Water spray can cool fire, but may not be effective in extinguishing fire. Large fires should be extinguished with alcohol foam. Use water spray to cool containers exposed to fire. Stay away from ends of tanks. Containers may explode in heat of fire. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Isolate for ½ mile in all directions if tank car or truck is involved in fire.

Unusual Fire and Explosion Hazards: Dangerous fire and explosion hazard when exposed to heat or flame. Methanol is extremely flammable and forms explosive mixtures with air. Methanol vapors may travel considerable distance to a source of ignition and flash back.

SECTION 5 — HEALTH HAZARD DATA

The health effects noted below are consistent with requirements under the OSHA Hazard Communications Standard (29 CFR 1910.1200).

Effects of Overexposure:

- Ingestion: Ingestion of methyl alcohol may produce headache, weakness, drowsiness, lightheadedness, nausea, vomiting, drunkenness, irritation of the eyes and blurred vision. There is usually a latency period during which the acute symptoms may disappear, then relapse. Symptoms during the relapse include nausea, vomiting dizziness and headache.
- Inhalation: High levels of methyl alcohol vapor may produce headache, weakness, drowsiness, lightheadedness, nausea, vomiting, drunkenness, irritation of the eyes and blurred vision. There is usually a latency period during which the acute symptoms may disappear, then relapse. Symptoms during the relapse include nausea, vomiting dizziness and headache.
- Skin Contact: Methanol acts as a defatting agent on the skin, which can result in dermatitis.
- Eye Contact: Eye irritation can occur if the liquid or high levels of the vapor get into the eye.

Signs and Symptoms: Headache, weakness, drowsiness, lightheadedness, nausea, vomiting, drunkenness, irritation of the eyes and blurred vision.

Aggravated Medical Conditions: Persons with existing skin, kidney, liver or eye disorders may be at increased risk when exposed to methanol. Methanol may enhance the toxicity of carbon monoxide.

SECTION 5 — HEALTH HAZARD DATA continued

Other Health Effects: Chronic exposure to methanol can result in headache, dizziness, nausea, vomiting, weakness, vertigo, chills, unsteady gait, dermatitis, edema of the arms, gastric pain, insomnia, blurred vision, constricted

visual fields, changes in color perception, double vision and blindness. Methanol has also been reported to cause shooting pains in the lower extremities and multiple neuritis, characterized by numbness and prickling on the skin and shooting pain in the back of the hands and forearms. Sleep disturbances and digestive problems may also occur. Methanol is a defatting agent and can cause dermatitis.

Carcinogenicity: NTP = No IARC Monographs = No OSHA Regulated = No

First Aid Procedures:

- Ingestion: If the chemical is ingested and the person is conscious, induce vomiting immediately. Then give two teaspoons of baking soda in a glass of water. Do not induce an unconscious person to vomit. Get medical attention immediately.
- Skin Contact: Promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Systemic effects may be delayed by 18 to 72 hours, therefore, keep individual under observation.
- Inhalation: Move the exposed person to fresh air at once and call emergency medical care. If breathing has stopped, give artificial respiration. If breathing is difficult, give humidified oxygen.
- Eye Contact: Immediately wash the eyes with large amounts of room temperature water for at least 15 minutes occasionally lifting the lower and upper eyelids. Get medical attention immediately. A follow up visit to an ophthalmologist should be made. Contact lenses should not be worn when working with this chemical.

SECTION 6 — REACTIVITY DATA

Stability: Stable

Incompatibility (materials to avoid): Strong oxidizing agents, aluminum, zinc or metals that displace hydrogen, rubber and rubber based coatings, chromic anhydride, lead perchlorate and perchloric acids.

Hazardous Decomposition Products: Excessive heating and/or incomplete combustion will produce carbon monoxide and toxic vapors such as formaldehyde.

Hazardous Polymerization: Will not occur

SECTION 7 — SPECIAL PROTECTION INFORMATION

Respiratory Protection: Do not use air purifying respirator. Use appropriate NIOSH approved supplied air or self contained respirator in accordance with 29 CFR 1910.132 and 1910.134, to prevent overexposure. Respirators must be selected based on airborne levels found in the workplace and must not exceed the working limits of the respirator.

Ventilation: Provide local ventilation to maintain exposure levels below recommended exposure limits. Use explosion proof ventilation.

Protective Gloves: Use natural rubber or neoprene gloves.

SECTION 7 — SPECIAL PROTECTION INFORMATION continued

Eye Protection: Use splash proof chemical safety goggles or appropriate full-face respirator. Follow the eye and face protection guideline of 29 CFR 1910.132 and 1910.133. Where there is any possibility that an individual's eyes may be exposed to methanol, and eye wash fountain (in accordance with 29 CFR 1910.151) should be within the

immediate work area for emergency use. Contact lenses should not be worn when working with this chemical.

Other Protective Clothing & Equipment: Where there is a possibility of exposure of an individual's body to methanol, facilities for quick drenching of the body should be provided (in accordance with 29 CFR 1910.151) within the immediate work area for emergency use. Such individuals should be provided with and required to use impervious clothing in accordance with 29 CFR 1910.132.

Hygienic Work Practices: Wash with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before using again.

SECTION 8 — SPILL OR LEAK PROCEDURES

Steps To Be Taken In Case Material Is Released or Spilled: Shut off all sources of ignition. No smoking or flares allowed in the spill area. Restrict access to spill area and move unprotected personnel upwind of the area. Keep out of low areas. Allow only trained personnel wearing appropriate protective clothing and self contained respirator in the positive pressure mode in the vicinity of the spill. Do not touch spilled material; stop leak if you can do so without risk. If fire potential exists, cover spill with foam. Prevent methanol from entering water bodies, drains and any sewage collection systems. Methanol will float on water and the runoff will present an explosion or fire hazard. For small spills, take up with sand or other non-combustible absorbent material and place into containers for later disposal. Control large spills by diking. Dispose all spill material in accordance with federal, state and local regulations. Methanol spills over the reportable quantity (5,000 lbs.) should be reported to the National Response Center (800) 424-8802.

Waste Disposal Method: Waste must be disposed of in accordance with federal, state and local regulations.

SECTION 9 — SPECIAL PRECAUTIONS

Precautions To Be Taken In Handling and Storage: Store in a well ventilated place in accordance with 29 CFR 1910.106 away from sources of ignition, combustibles, oxidizing materials and acid. Store in an area equipped with automatic sprinklers or fire extinguishing system. Large quantities should be stored in metal tanks or drums. Ground and bond material storage containers and all transfer lines to prevent possible ignition from static sparks. Use spark resistant equipment to store methanol. Containers of this material may be hazardous when emptied. Since emptied containers retain product residues, assume emptied containers to have the same hazards as full containers. Wear appropriate protective equipment when handling methanol. Follow all federal, state and local regulations as well as all insurance codes when storing and handling methanol.

Other precautions: Provide suitable training for those working with methanol.

SECTION 10 — REGULATORY INFORMATION

EPCRA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCE (EHS)

None of the components of this product are required to be reported under Sec. 302 of EPCRA (EHS).

SECTION 10 — REGULATORY INFORMATION continued

CERCLA SECTION 304 HAZARDOUS SUBSTANCE (RQ CHEMICALS)

The following chemicals are required to be reported when released in quantities in excess of the Reportable Quantity (RQ) which is given in pounds: Methanol (67-56-1) 5,000 lbs.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA), TITLE III SECTION 313

This product contains the following chemical subject to the reporting requirements:

Methanol (67-56-1)

PENNSYLVANIA RIGHT TO KNOW, HAZARDOUS SUBSTANCE SURVEY

This product contains the following chemicals subject to be reported on the HSSF.

Methanol (67-56-1)

Date entered: 6/17/97

Date revised: 7/28/99

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