

SAFETY DATA SHEET

Section 1: Identification

Product Name: Alcohol Antiseptic

Chemical Name/Synonyms: Alcohol-based Hand Rub WHO Formulation-1

Company: Iowa Prison Industries **Address:** 420 Mill Street, Mitchellville, IA 50169

Information Line: 525-725-5310

Emergency Contact: Justin Opfer, IPI Manager

Product Description: Alcohol-based hand sanitizer – bactericidal and virucidal

Section 2: Hazard(s) Identification

Classification of mixture

Flammable Liquid - 2 H225

Acute Toxicity – Cat 4 (Oral) H302

Skin Irritant – Cat 2 H315

Eye Irritant- Cat 2A H319

Sp. Target Organ Toxicity (STOT) SE3 H335 (Cat. 3)

STOT SE 1 – H370 (Cat. 1)

Hazard Statements:

H225 Highly Flammable Liquid and vapor

H302 Harmful if swallowed

H315 Causes skin irritation

H319 Causes serious eye irritation

H335 May cause respiratory irritation

Signal Word: Warning



FLAMMABLE



HEALTH



IRRITANT

Precautionary Statements:

P102 Keep out of reach of children

P210 Keep away from heat and hot surfaces, open flames, sparks – No Smoking

P233 Keep container tightly closed

P240 Ground/Bond container and receiving equipment

P242 Use only non sparking tools

P243 Take precautionary measures against static discharge

P264 - Wash hands, forearms, and exposed areas thoroughly after handling.

P280 - Wear eye protection, protective gloves, protective clothing. P303+P361+P353 - IF ON SKIN (OR HAIR):

Take off immediately all contaminated clothing.

Rinse skin with water/shower.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 - If eye irritation persists: Get medical advice/attention.

P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or fog to extinguish

P403+P235 Store in well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with national, and international regulations.

Section 3: Composition/ Information on Ingredients

Mixture

Chemical Name	Classification	Synonym	CAS#	Conc.
Ethanol (SDA) 3C 190 Proof	Flam Liq 2-H225		64-17-5	82% (v/v)
Isopropyl alcohol	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336		67-63-0	4-6%
Hydrogen Peroxide	Acute oral toxicity Cat 4 Harmful if swallowed Cat 1 Oxidizing liquids Cat 3		7722-84-1	0.125% (v/v)
Glycerol	Not Classified	Glycerin	56-81-5	1.45% (v/v)
Water	Not Classified		7732-18-5	>1%

Section 4: First-Aid Measures

General Information: Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. If in doubt, get medical attention promptly. Show this SDS to the medical personnel

After skin contact: No special treatment - Rinse with water.

After eye contact: Flush eyes thoroughly with clean water at low pressure for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if any discomfort / irritation persists.

After inhalation: Move affected person to fresh air and keep warm, and at rest in a comfortable breathing position. Loosen clothing such as collar, tie, or belt. Get medical attention if symptoms persist or worsen.

After swallowing: Rinse mouth thoroughly with water. Get medical attention if you feel unwell. DO NOT induce vomiting unless under direction of medical personnel.

Protection of 1st Aiders: First aid personnel should wear appropriate protective equipment during any rescue.

Most important symptoms and effects, both acute and delayed:

Severity of symptoms will vary dependent on the concentration and the length of exposure. No specific symptoms known for inhalation, ingestion, skin contact; may be slightly irritating to eyes.

For physician: Treat symptomatically. Symptoms vary with alcohol level of the blood.

Mild alcohol intoxication occurs between 0.05- 0.15%. Approximately 25% of individuals show signs of intoxication at these levels.

A person is definitely under the influence above 0.15%. 50-95% of individuals are clinically intoxicated at these levels.

Severe poisoning occurs when the level is 0.3- 0.5%. Above 0.5% the individual will be comatose and death can occur.

Unabsorbed ethanol should be removed by gastric lavage after intubating the patient to prevent aspiration. Avoid the use of depressant drugs or the excessive administration of fluids.

Section 5: Fire-Fighting Measures

Suitable extinguishing agents: The product is flammable. Extinguish with CO₂, foam, dry chemical, fog or alcohol-resistant foam

Container can burst or explode when heated, due to excessive pressure build up. Flammable liquid and vapor may be ignited by a spark, open flame, hot surface ember.

LARGE FIRE: Use water spray, water fog or alcohol-resistant foam. Cool all affected containers with flooding quantities of water.

Special protective equipment for firefighters: Wear SCBA and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.

Section 6: Accidental Release Measures

Small spills (less than 1 gallon) may be washed down a drain with lots of water or cleaned up and disposed of into a sanitary sewer system.

Large spills (more than 1 gallon) should be contained and collected (by absorption [sand, clay, or other absorbent material] or vacuuming) then disposed of properly.

Personal precautions: For accidental release of large quantities, wear protective clothing as described in section 8. No action shall be taken without appropriate training or involving any personal risk. No sources of ignition near the spillage. Promptly remove contaminated clothing.

Measures for environmental protection: avoid discharge into drains or watercourses or onto the ground.

Measures for cleaning/collecting: Wear PPE as described in Section 8. Clear up spill immediately, eliminate all ignition sources near the spillage. Do not allow the material to enter confined spaces, due to risk of explosion. Absorb small quantities with paper towels and evaporate in a safe place. Once evaporation is complete, place paper in a suitable waste container and seal. Flush contaminated area with plenty of water. Wash thoroughly after dealing with spillage.

Section 7: Handling and Storage

Handling: Keep out of reach of children. Read the manufacturer's recommendations. Wear PPE as describe in section 8. Keep away from food, drink and animal feeding stuffs. Handle containers carefully, to minimize spills. Avoid formin mists, keep away from hot surfaces, sparks, open flames, and other ignition sources. No smoking. Do not reuse empty containers.

Storage: Keep out of reach of children. Read the manufacturer's recommendations. Wear PPE as describe in section 8. Keep away from food, drink and animal feeding stuffs. Keep away from oxidizing materials, heat and flames. Keep only in original container, keep container closed, upright, in a cool well-ventilated place, and containers protected from damage.

Flammable liquid storage. See Section 12 for identified uses of this product.

Section 8: Exposure Controls/Personal Protection

All handling should take place in ventilated areas.

Chemical Name	OSHA PEL	OSHA PEL (ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Ethanol (SDA) 3C, 90 Proof	1000 ppm; 1920 mg/m ³		1000 ppm (Ethanol; USA; Short time value; TLV - Adopted Value)	1000 ppm (Ethanol; USA; Short time value; TLV - Adopted Value)
Isopropyl alcohol			500 ppm	400 ppm
Hydrogen Peroxide	TWA:1 ppm; 1.4 mg		TWA: 1 ppm	
Glycerol	10mg/m ³			
Water	No exposure Limit.			

Appropriate engineering controls:

General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

UNDER NORMAL USAGE: No specific requirements are anticipated.

General protective and hygienic measures: Avoid contact with eyes and face. No specific eyewear for normal use.

Protection of hands: No hand protection required for normal use.

Eye protection: Eyewear protective for the task as indicated by a risk assessment.

Emergency eyewash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Breathing equipment: For large spillage, respirator must be worn if ventilation is inadequate

REPEATED OVEREXPOSURE TO ETHANOL MAY RESULT IN CHRONIC HEALTH EFFECTS:

Repeated ingestion:

- May result in the development of progressive liver injury with fibrosis from long-term
- During pregnancy - has been shown to adversely affect the central nervous system of the fetus, producing a collection of effects which together constitute fetal alcohol syndrome.
- May aggravate liver injury produced from other causes.

Repeated skin contact with ethanol may aggravate dermatitis.

Section 9: Physical and Chemical Properties

Appearance: liquid

Color: Clear and colorless (ethanol)

Odor: Alcoholic Odor Threshold: Not Available

pH Not Available

Molecular Weight (ISOPROPYL ALCOHOL) 46.07 g/mol

Molecular Weight (ETHANOL) 60.1 g/mol

Melting point/freezing point -114.1 °C (-173 °F) (Ethanol)

Initial boiling point and boiling range 80°C (176 °F) (Ethanol)

flash point 17°C (62 °F) Closed Cup

Evaporation rate 3 (butyl acetate=1)

Flammability (solid, gas) flammable

Upper/lower flammability or explosive limits 19 % (Ethanol) / 3.3 % (Ethanol)

Vapor pressure 5.52kPa / 41.4 mm Hg @ 20°C (68 °F) for 100% ethanol)

Vapor density 1.59 (Ethanol) (air=1)

Relative density Not Available

Solubility(ies) completely soluble in water

Partition coefficient: n-octanol/water: Not Available

Auto-ignition temperature 363.0 °C (685.4 °F) - (Ethyl Alcohol)

Decomposition temperature N/A

Viscosity Not Available

Explosion Data – Sensitivity to Mechanical Impact: Not expected to present an explosion hazard due to mechanical impact.

Explosion Data – Sensitivity to Static Discharge: Static discharge could act as an ignition source.

Section 10: Stability and Reactivity

Reactivity: Strong oxidizers: reacts violently Oxidizers: (increased) risk of fire/explosion.

Chemical stability: Stable at normal temps and when used as recommended

Conditions to avoid: heat, flame, sources of ignition, static electricity in the form of sparks, heat. Contamination; Exposure to UV-rays; pH variations.

Incompatible materials: Oxidizing agents – may react strongly; and strong reducing agents (acids, alkali metals, ammonia, hydrazine, peroxides, sodium, acid anhydrides, calcium hypochlorite, chromyl chloride, nitrosyl perchlorate, bromine pentafluoride, perchloric acid, silver nitrate, mercuric nitrate, potassium-tert-butoxide, magnesium perchlorate, acid chlorides, platinum, uranium hexafluoride, silver oxide, iodine heptafluoride, acetyl bromide, disulfuryl difluoride, tetrachlorosilane + water, acetyl chloride, permanganic acid, ruthenium (VIII) oxide, uranyl perchlorate, potassium dioxide .)
 Acetaldehyde. Chlorine. Ethylene oxide. Isocyanates.
 Heavy metals. Iron. Copper alloys. Contact with metals, metallic ions.
 Combustible materials.

Hazardous decomposition products: None when stored and used as recommended.

Thermal decomposition (fire) products may include harmful gases and vapors, carbon monoxide (CO), carbon dioxide (CO₂), and oxygen which supports combustion; various low molecular weight hydrocarbons, and smoke.

Liable to produce overpressure in container.

Section 11: Toxicological Information

Ethyl Alcohol 64-17-5

Acute toxicity: Based on the available data the classification criteria are not met

LC50 (inhl)	Rat	20000ppm	10 hrs.
LC50 (Oral)	Rat	7060mg/Kg BWT	
LDLo (Oral)	Human	1400 mg/Kg BWT	

Potential routes of exposure/potential health effects

Skin: May Cause skin irritation.

Eye: Causes serious eye irritation including stinging, tearing, and redness. A foreign-body sensation may persist for one to two days. Vapors produce transient stinging and tearing, but no apparent adverse effects. Transiently impaired preception of color may occur with acute ingestion or chronic alcoholism. Standard Draize eye test (rabbit) - Dose: 500 mg Reaction: Severe Dose: 500 mg/24 hrs Reaction: Mild.

Inhalation: Based on the available data the classification criteria are not met. At high vapor concentrations, however:

- may cause burning sensation in nose and throat and stinging and watering in the eyes.
- irritation, dizziness, faintness, drowsiness, nausea and vomiting may also occur.

Signs and Symptoms of Exposure

Ethanol is not toxic by OSHA standards. Coingestion of sedative hypnotics or tranquilizers can increase the toxic affects of ethanol.

Ingestion: Based on the available data the classification criteria are not met.

Ingestion of large amounts, however, may cause dizziness, faintness, drowsiness decreased awareness or responsiveness, nausea, vomiting, staggering gait, lack of coordination, blindness, coma and death.

Central nervous system depression, narcosis, damage to the heart. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Carcinogenic effects: Carcinogenic to humans; May cause cancer (Ingestion). IARC group 1

Mutagenic effects: Based on the available data the classification criteria are not met

Reproductive toxicity: Suspected of damaging the unborn child (Ingestion).

Sensitization: Not classified

Target organs: No specific target organs known. Based on available data the classification criteria are not met.

Section 12: Ecological Information (non-mandatory)

Ecotoxicity: Ethanol: Not harmful to fishes (LC50(96h) >1000 mg/l). Not harmful to invertebrates (Daphnia). Slightly harmful to algae (EC50 (72h): 100 - 1000 mg/l). Harmful to plankton. Not harmful to bacteria (EC50 >1000 mg/l). No inhibition of activated sludge. 14200 mg/l (LC50; US EPA; 96 h); Flow-through system; Fresh water; Experimental value)

Isopropynol: Toxic to fish (Pimephales promelas 9,640 mg/L); Toxic to Daphnia and Other Aquatic Invertebrates (EC50 / 24 h / Water Flea - 5,102 mg/L) and Aquatic Plants (EC50 / 72 hours Scenedesmus subspicatus > 1,000 mg/L)

Glycerol

Acute toxicity - fish LC₅₀, 96 hours: 54000 mg/l, Onchorhynchus mykiss (Rainbow trout)

Acute toxicity – aquatic plants (EC₅₀, 72 hours: >2900 mg/l, Freshwater algae)

Mobility: Surface tension 0.022 N/m (20 °C). Log Koc- Koc,PCKOCWIN v1.66; 1;

Biodegradation: Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.

Glycerol Persistence and degradability: The product is biodegradable.

Bioaccumulation:

BCF fish 1 1 (BCF; Other; 72 h; Cyprinus carpio; Static system; Fresh water; Read-across)

Log Pow -0.31 (Experimental value)

Bioaccumulative potential Low potential for bioaccumulation (Log Kow < 4).

Section 13: Disposal Considerations (non-mandatory)

Avoid release to the environment.

Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Remove to an authorized waste incinerator for solvents with energy recovery. Do not discharge into surface water.

Section 14: Transport Information (non-mandatory)

IMDG UN-Number: UN1170 Class: 3 ; acking Group: II EMS-No: F-E, S-D; Proper shipping name: ALCOHOLS, N.O.S. Marine pollutant: No

IATA UN-Number: UN1170 Class: 3 Packing Group: II Proper shipping name: Alcohols, n.o.s.

In accordance with DOT

Transport document description: UN1170 Alcohols, n.o.s., 3, II

UN-No.(DOT): 1170

DOT NA no.: UN1170

Proper Shipping Name (DOT): Alcohols, n.o.s.

Transport hazard class(es) (DOT): 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Hazard labels (DOT): 3 - Flammable liquid

Packing group (DOT): II - Medium Danger

DOT Special Provisions (49 CFR 172.102): 172 - This entry includes alcohol mixtures containing up to 5% petroleum products. IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2);

Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T7 - 4 178.274(d)(2)

Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling



determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when the flash point of the hazardous material transported is greater than 0 C (32 F). TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx): 4b;150

DOT Packaging Non Bulk (49 CFR 173.xxx): 202

DOT Packaging Bulk (49 CFR 173.xxx):242

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75): 60 L

DOT Vessel Stowage Location: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

Section 15: Regulatory Information (non-mandatory)

Ethanol - Listed on the United States TSCA (Toxic Substances Control Act) inventory

SARA 311/312 Hazards Acute Health Hazard; Chronic Health Hazard; Fire Hazard

Section 16: Other Information

Classification procedures according to Regulation

Flam. Liq. 2 - H225: : Expert judgement.

Training advice: Read and follow manufacturer's recommendations.

Revision date

Revision 0

SDS number

Hazard statements in full H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Hazard Rating Health: 2 Moderate Hazard - Temporary or minor injury may occur

Flammability: 3 Serious Hazard

Physical: 1 Slight Hazard

Personal protection: D

SDS date of preparation/update: 3/18/2020