(Material) Safety Data Sheet

Transport Symbol(s)	WHMIS	NFPA	Personal Protective Equipment
			

Original Preparation Date: 14-Nov-2014 **Revision Date:** *14-Nov-2014* **Revision Number:** *1*

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product Name:
Anhydrol 190 Proof PM 4085

Product Code:
017766

Contact Manufacturer:
Archer Daniels Midland Company
4666 Faries Parkway
Decatur, IL 62526, USA
Telephone Number: (+1) 217-424-5200
Emergency response telephone number:
Chemtrec 1-800-424-9300 (CCN 1635)

Use of the Substance / Preparation:
Industrial use

2. HAZARDS IDENTIFICATION

Emergency Overview

Danger. Highly flammable liquid and vapour. Vapors may be irritating to eyes, nose, throat, and lungs. May be harmful if swallowed. Not for human consumption. Inhalation, ingestion or skin absorption of methanol can cause significant disturbance in vision, including blindness. Contains > 0.1% of a category 2 carcinogen. Irritating to eyes.

Appearance	Physical State	Odor
Clear Bright	Liquid	Characteristic

Classification according to 29 CFR 1910, amended to conform to the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals (GHS):	
Serious Eye Damage / Eye Irritation	Category 2
Carcinogenicity	Category 2
Specific Target Organ Toxicity (STOT) Single Exposure.	Category 1 Affected organs: Optic nerve (nervus opticus), central nervous system.
Flammable Liquids	Category 2

OSHA / GHS Label Elements	
Signal Word:	Danger Warning
GHS Hazard Pictogram(s):	
Hazard Statement(s):	H225 Highly flammable liquid and vapour H319 Causes serious eye irritation H351 Suspected of causing cancer H370 Causes Damage to organs. (Affected organs: Optic nerve (nervus opticus), central nervous system.)

Prevention Precautionary Statements:
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear eye/face protection. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Wash hands and exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe fume/gas/mist/vapours/spray. Keep container tightly closed.

Response Precautionary Statements:
If on skin (or hair): Take off immediately, all contaminated clothing. Rinse skin with water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice. In case of fire: Use Alcohol-resistant foam / dry chemical / carbon dioxide (CO2) to extinguish. Do not use a solid water stream as it may scatter and spread fire. If exposed or concerned: Get medical advice/attention. If exposed: Get medical advice/attention.

Storage Precautionary Statements:
Store locked up. Store in a well-ventilated place. Keep cool.

Disposal Precautionary Statements:
Dispose of contents/container in accordance with all applicable national and local regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Alcohols

The following component(s) in this product are considered hazardous under applicable OSHA (USA), WHMIS (Canada), and/or NOM-002-SCT-2003 (Mexico) regulations

Chemical Name	CAS-No	Volume %	North American Hazard Indicator
Ethyl alcohol	64-17-5	83.37	OSHA / GHS: Flam. Liq. 2. Eye Irrit. 2. WHMIS: B2. D2B.
Ethyl acetate	141-78-6	4.52	OSHA / GHS: Flam. Liq. 2 Eye Irrit. 2. STOT SE 3. WHMIS: B2
Methyl alcohol	67-56-1	4.37	OSHA / GHS: Flam. Liq. 3. Acute Tox. 3. (oral) (dermal) (inhalation). STOT SE, Cat. 1. Affected organs: Optic nerve (nervus opticus), central nervous system. WHMIS: D1B, D2A, D2B. B2
Methylisobutyl ketone	108-10-1	0.93	OSHA / GHS: Flam. Liq. 2 Eye Irrit. 2. Acute Tox. 4. (inhalation) Carc. 2. STOT SE 3. WHMIS: B2 D2A. (Carcinogen) IDL (0.1%) yes

Additives / Other Ingredients Contains less than 0.1% of the following: Acetaldehyde. Acetone.

4. FIRST AID MEASURES

Description of first aid measures

Eye Contact Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye.

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Consult a physician if necessary.

Inhalation Move to fresh air in case of accidental inhalation of vapors. Artificial respiration and/or oxygen may be necessary. Call a physician immediately.

Ingestion Clean mouth with water and afterwards drink plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Swallowing methanol in significant quantities can be potentially life threatening. Onset of symptoms may be delayed for up to 18-24 hours after ingestion. Call a physician or Poison Control Centre immediately.

Protection of First-aiders Use personal protective equipment. Remove all sources of ignition.

General Advice When symptoms persist or in all cases of doubt seek medical advice.

Most important symptoms and affects, both acute and delayed

Eyes Irritating to eyes.

Skin May cause slight skin irritation.

Inhalation Inhalation of vapors in high concentration may cause irritation of respiratory system. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. In humans, ethanol is readily absorbed by the oral and inhalation routes, is distributed throughout all tissues and organs and is readily, metabolized and excreted. At exposures relevant to occupational inhalation exposure, the alcohol dehydrogenase metabolic route in the liver dominates and does not become saturated. Ethanol is not accumulated in the body. Inhalation of methanol can cause significant disturbance in vision, including blindness.

Ingestion Ingestion may cause irritation to mucous membranes. May cause drowsiness and dizziness. Lack of coordination. Nausea. Vomiting. Abdominal pain. Unconsciousness. Very severe cases of overexposure my result in coma. Ingestion of methanol may be fatal or cause blindness.

Main Symptoms Dizziness. Vomiting. Nausea. Drowsiness. Severe vision effects, including increased sensitivity to light, blurred vision, and blindness may develop following an 18-24 hour symptom-free period after ingestion. Coma.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Contains methanol. Acute exposure to methanol, either through ingestion or breathing high airborne concentrations can result in symptoms appearing between 40 minutes and 72 hours after exposure. Symptoms and signs are usually limited to the Central Nervous System (CNS), eyes and gastrointestinal tract. A profound metabolic acidosis occurs in severe poisoning and serum bicarbonate levels are a more accurate measure of severity than serum methanol levels. Treatment protocols are available from most major hospitals and early collaboration with appropriate hospitals is recommended. Ethanol significantly decreases the toxicity of methanol because it competes for the same metabolic enzymes, and has been used to treat methanol poisoning.

5. FIRE-FIGHTING MEASURES

Flammable Properties

Flammable liquid. Vapors may cause flash fire or explosion. Vapors may form explosive mixtures with air. Material may pose fire hazard because it is dispersed (or spread) by water.

Extinguishing media

Suitable Extinguishing Media Alcohol-resistant foam. Dry chemical. Carbon dioxide (CO_2). Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Evacuate area and fight fire from a safe distance. Cool closed containers exposed to fire with water spray.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture

Hazardous Combustion Products	Thermal decomposition can lead to release of irritating gases and vapors, Carbon monoxide (CO), Carbon dioxide (CO_2).
Specific Hazards Arising from the Chemical	Risk of ignition. Keep product and empty container away from heat and sources of ignition.
Sensitivity to mechanical impact	No information available.
Sensitivity to static discharge	Yes.

Advice for fire-fighters

Protective Equipment and Precautions for Firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health 2
Flammability 3
Stability and Reactivity 0
Physical hazard None known

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures
Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Take precautionary measures against static discharges. Pay attention to flashback. Use personal protective equipment. Avoid contact with the skin and the eyes.
Environmental Precautions
Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
Methods and Materials for Containment and Cleaning Up
Small spills: Allow to evaporate if it is safe to do so or contain and absorb using earth, sand or other inert material then transfer into suitable containers for recovery or disposal. Ventilate contaminated area thoroughly. Use non-sparking tools. Do not use electrical equipment unless it is intrinsically safe.
Large spills: Dike or dam to contain for later disposal. Cover drains. Contact emergency authorities.

7. HANDLING AND STORAGE

Handling
Take precautionary measures against static discharges. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from open flames, hot surfaces and sources of ignition. Wear personal protective equipment. Do not breathe vapors or spray mist. Use only in area provided with appropriate exhaust ventilation. Use product only in closed system. Avoid contact with skin and eyes.
Storage
Keep in properly labelled containers. Keep away from heat and sources of ignition. Keep containers tightly closed in a cool, well-ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits

Chemical Name	ACGIH TLV	OSHA PEL	Mexico	NIOSH
Ethyl alcohol	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m³	TWA: 1000 ppm (LMPE-PPT) TWA: 1900 mg/m³ (LMPE-PPT)	IDLH: 3300 ppm 10% LEL TWA: 1000 ppm TWA: 1900 mg/m³
Ethyl acetate	TWA: 400 ppm	TWA: 400 ppm TWA: 1400 mg/m³	TWA: 400 ppm (LMPE-PPT) TWA: 1400 mg/m³ (LMPE-PPT)	IDLH: 2000 ppm 10% LEL TWA: 400 ppm TWA: 1400 mg/m³
Methyl alcohol	STEL: 250 ppm TWA: 200 ppm	TWA: 200 ppm TWA: 260 mg/m³	TWA: 200 ppm (LMPE-PPT) TWA: 260 mg/m³ (LMPE-PPT) STEL: 250 ppm (LMPE-CT) STEL: 310 mg/m³ (LMPE-CT) Skin	IDLH: 6000 ppm Skin STEL: 250 ppm STEL: 325 mg/m³ TWA: 200 ppm TWA: 260 mg/m³
Methylisobutyl ketone	STEL: 75 ppm TWA: 20 ppm	TWA: 100 ppm TWA: 410 mg/m³	TWA: 50 ppm (LMPE-PPT) TWA: 205 mg/m³ (LMPE-PPT) STEL: 75 ppm (LMPE-CT) STEL: 307 mg/m³ (LMPE-CT)	IDLH: 500 ppm STEL: 75 ppm STEL: 300 mg/m³ TWA: 50 ppm TWA: 205 mg/m³

Appropriate Engineering Controls Ensure adequate ventilation, especially in confined areas. Apply technical measures to comply with the occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

General Hygiene Considerations When using, do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing. Handle in accordance with good industrial hygiene and safety practice.

Personal Protective Equipment

Eye/face Protection. Safety goggles are recommended.

Skin and Body Protection Long sleeved clothing. Chemical resistant apron. Antistatic boots. Appropriate body protection should be selected based on activity and possible exposure. Neoprene gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Wear a positive-pressure supplied-air respirator with full facepiece.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Clear Bright
Physical State Liquid
Odor Characteristic
Odor Threshold No information available
pH No information available

Flash Point 20 °C / 68 °F (Open Cup)
Autoignition Temperature No information available
Boiling point 78 °C / 172 °F
Melting/Freezing Point No information available
Decomposition temperature No information available
Oxidizing Properties No information available
Flammability Limits in Air Upper: 36% (Methanol)
Lower: 3.3% (Ethanol)

Water Solubility Miscible

Evaporation Rate	3.7 [Butyl acetate = 1.0]
Vapor Pressure	51 mmHg
Vapor Density	1.5 at 172°F (Air = 1.0)
Specific Gravity / Relative Density	0.79 at 20ºC (Water = 1.0)
Partition Coefficient (n-octanol/water)	No information available

10. STABILITY AND REACTIVITY

Reactivity May react violently with very strong oxidising agents.
Stability Stable under normal conditions.
Possibility of Hazardous Reactions Hazardous polymerization does not occur.
Conditions to Avoid Heat, flames and sparks. Incompatible products.
Incompatible Materials Strong oxidizing agents. Strong mineral acids. Aluminium at higher temperatures.
Hazardous Decomposition Products Thermal decomposition can lead to release of irritating gases and vapors, Carbon monoxide (CO), Carbon dioxide (CO_2).

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity	Ingestion, inhalation, or dermal absorption of even small amounts of methanol may result in methanol poisoning. The minimal lethal dose of methanol in humans has not been fully determined at this time. Due to the nature of the product constituents, sufficient data has not yet been identified to classify the mixture as a whole for acute toxicity. Appropriate care should be taken to avoid oral, dermal, and inhalation exposure. Ethanol significantly decreases the toxicity of methanol because it competes for the same metabolic enzymes, and has been used to treat methanol poisoning.

Chemical Name	Volume %	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethyl alcohol	83.37	7060 mg/kg Rat		
Ethyl acetate	4.52	5620 mg/kg Rat	18000 mg/kg Rabbit 20 mL/kg Rabbit	
Methyl alcohol	4.37	5628 mg/kg Rat	15800 mg/kg Rabbit	64000 ppm Rat 4 h 83.2 mg/L Rat 4 h
Methylisobutyl ketone	0.93	2080 mg/kg Rat	16000 mg/kg Rabbit	8.2 mg/L Rat 4 h

Skin corrosion/irritation	Based on available data, the classification criteria are not met. All available acute 4 hour exposure studies for ethanol show not irritating in animals (OECD404 or equivalent) and humans. In humans, repeated dose studies for ethanol show no irritation with repeated application over a whole day under occlusive conditions for up to 12 days. Further exposures cause irritation to occur.
Serious eye damage/eye irritation	Cat. 2 H319: Causes serious eye irritation.
Respiratory or skin sensitisation	Based on available data, the classification criteria are not met. Mouse swelling study: negative (ethanol) Local Lymph Node Assay (OECD429): Negative (ethanol) Guinea Pig maximisation study: (OECD406) Negative (ethanol) Respiration sensitisation: no data available. (ethanol).
Germ cell mutagenicity	Based on available data, the classification criteria are not met. Bacterial reverse mutation studies (OECD471) for ethanol: all negative In vitro cytogenicity studies (eg OECD473) for ethanol: negative without metabolic activation. No studies available with metabolic activation. In vitro mammalian cell gene mutation studies (OECD476) for ethanol: negative with and without metabolic activation. In vivo micronucleus test (OECD474) for ethanol: no convincing evidence that ethanol causes micronuclei in the bone marrow. In vivo chromosome aberration test (OECD475) for ethanol: negative. Dominant Lethal assay (OECD478): Ethanol is unlikely to produce an effect up to the maximum tolerated dose. There is some evidence from in vitro studies that ethanol can cause genotoxic or clastogenic effects. However, the effects seen are weak and only occur at very high doses. The balance of evidence is that ethanol is not genotoxic.

Carcinogenicity	Carc. 2 (H351). Contains > 0.1% of a category 2 carcinogen. Based on available data, no evidence of carcinogenicity. Rats: NOAEL>3000mg/kg (ethanol) Mice: Females NOAEL>4400mg/kg, Males NOAEL>4250mg/kg based on historic control data, BMDL10=1400mg/kg based on concurrent control data. (ethanol) In humans, the consumption of alcoholic beverages is associated with an increased incidence of certain tumours. There is no evidence that the exposure of humans to ethanol other than by repeated consumption of alcoholic beverages may result in an increase in cancer incidence. The table below indicates whether each agency has listed any ingredient as a carcinogen. NOTE: Ethanol is only classified as carcinogenic as ingested in alcoholic beverages.

Chemical Name	Volume %	OSHA	NTP	ACGIH	IARC
Ethyl alcohol	83.37	Present	Known	A3 - Confirmed Animal Carcinogen	Group 1 - Carcinogenic to Humans
Methylisobutyl ketone	0.93	Present		A3 - Confirmed Animal Carcinogen	Group 2B - Possibly Carcinogenic to Humans

Reproductive toxicity	Based on available data, the classification criteria are not met FERTILITY (for ethanol): NOAEL (oral, mouse) = 13.8g/kg (OECD416 equiv.)) NOAEC (inhalation, rat) >16,000ppm DEVELOPMENTAL TOXICITY (OECD414 equiv): NOAEL (oral) = 5.2g/kgbw/day NOAEC (inhalation) = 39mg/l. Source IUCLID chapter 7.8 summary In humans excessive consumption of alcoholic beverages during pregnancy is associated with the induction of Fetal Alcohol Syndrome in the offspring causing reduced birth weight and physical and mental defect to occur. There is no evidence that such effects might be caused by exposures other than direct ingestion of alcoholic drinks. Blood ethanol concentrations resulting from ethanol exposure by any route other than deliberate and repeated oral consumption are unlikely to reach levels associated with reproductive or developmental effects. From the available data, it can be concluded that it is impossible to reach the doses of ethanol required to produce any sort of adverse reproductive response other than by repeated oral consumption of large amounts of ethanol, doses normally only associated with problem drinking, and therefore classification for reproductive or developmental toxicity in the context of a chemical substance is not appropriate or warranted.
STOT - single exposure	Based on available data, the classification criteria are not met. No specific target organ effects observed following single exposure. STOT SE, Cat. 1. Affected organs: Optic nerve (nervus opticus), central nervous system. (Classification is based on available literature data for the significant mixture components).
STOT - repeated exposure	Based on available data, the classification criteria are not met. In sub-chronic feeding or drinking water studies in rats, NOAELs for ethanol ranged from 1.73g/kg to 3.9g/kg. The most sensitive affect above these doses appeared to be to the kidney in males. Effects are only seen at doses well above the levels that would require classification.
Aspiration hazard	Based on available data, no known aspiration hazard.

Potential health effects

Eyes Irritating to eyes.

Skin May cause slight skin irritation.

Inhalation Inhalation of vapors in high concentration may cause irritation of respiratory system. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. In humans, ethanol is readily absorbed by the oral and inhalation routes, is distributed throughout all tissues and organs and is readily, metabolized and excreted. At exposures relevant to occupational inhalation exposure, the alcohol dehydrogenase metabolic route in the liver dominates and does not become saturated. Ethanol is not accumulated in the body. Inhalation of methanol can cause significant disturbance in vision, including blindness.

Ingestion Ingestion may cause irritation to mucous membranes. May cause drowsiness and dizziness. Lack of coordination. Nausea. Vomiting. Abdominal pain. Unconsciousness. Very severe cases of overexposure my result in coma. Ingestion of methanol may be fatal or cause blindness.

Main Symptoms Dizziness. Vomiting. Nausea. Drowsiness. Severe vision effects, including increased sensitivity to light, blurred vision, and blindness may develop following an 18-24 hour symptom-free period after ingestion. Coma.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Undetermined on the product level. Component-level values are listed below.

Chemical Name	Fresh Water Algae	Acute Fish Toxicity	Daphnia (Water flea)	Effects on micro-organisms	Other
Ethyl alcohol	Chlorella vulgaris, 72hr: EC50 275mg/l, EC10 11.5mg/l; Selenastrum capricornutum, 72hr, EC50: 12.9g/l, EC10=0.44g/l; Chlamydomonas eugametos, 48hr, EC50: 18g/l, NOEC=7.9g/l	LC50 (96hr) Salmo gairdneri: 13g/l; Pimephales promelas: 13.5, 14.2 and 15.3g/l.	(48hr) Daphnia Magna: 12.34g/l; NOEC (reproduction, 21 days): >10mg/l. Ceriodaphnia dubia: EC50 (48hrs): 5.012g/l; NOEC (reproduction, 10 days): 9.6mg/l. Palaemonetes pugio NOEC (developmental, 10 days): 79mg/l.		
Ethyl acetate	EC50: 48h 3300 mg/L (Desmodesmus subspicatus)	LC50: 96h 220-250mg/L (Pimephales promelas) flow-through LC50: 96h 352-500mg/L (Oncorhynchus mykiss) semi-static LC50: 96h 484mg/L (Oncorhynchus mykiss) flow-through	EC50: 48h 560 mg/L (Daphnia magna)		
Methyl alcohol		LC50: 96h 18-20ml/L (Oncorhynchus mykiss) static LC50: 96h 19500-20700mg/L (Oncorhynchus mykiss) flow-through			
Methylisobutyl ketone	EC50: 96h 400 mg/L (Pseudokirchneriella subcapitata)	LC50: 96h 496 - 514mg/L (Pimephales promelas) flow-through	EC50: 48h 170 mg/L (Daphnia magna)		

Bioaccumulative Potential Based on the partition coefficient, ethanol has a low bioaccumulation potential.

Chemical Name	log Kow	BCF
Ethyl alcohol	-0.32	
Ethyl acetate	0.6	
Methyl alcohol	-0.77	
Methylisobutyl ketone	1.19	

Persistence/Degradability Ethanol is readily biodegradable. BOD20=84%. Ethanol is expected to degrade readily in sewage treatment plants.

Mobility If released to air or water ethanol will disperse rapidly. If released to soil it will evaporate at a rapid rate. Ethanol is volatile and water soluble. If released to the environment it will partition to air and water. Ethanol is poorly absorbed on to soil or sediments.

PBT and vPvB assessment This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

13. DISPOSAL CONSIDERATIONS

Whenever possible, as rules and regulations allow, please recycle or manage materials to minimize waste.

Waste Disposal Methods	Dispose of in compliance with the laws and regulations pertaining to this product in your jurisdiction. The classification and disposal method of waste material resulting from this product should be determined by the user at the time of disposal. Seek guidance from a qualified person or service within your local jurisdiction. Can be incinerated, when in compliance with local regulations.
Contaminated Packaging	Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near to the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers.

14. TRANSPORT INFORMATION

Domestic transport regulations (USA)

DOT

UN-No UN1170
Proper Shipping Name Ethanol solution
Hazard Class 3
Packing Group II
Transport Symbol(s)

Chemical Name	CAS-No	Volume %	Reportable Quantity (RQ)
Ethyl acetate	141-78-6	4.52	5000 lb / 2270 kg
Methyl alcohol	67-56-1	4.37	5000 lb / 2270 kg

Domestic transport regulations (Canada)

TDG

UN-No UN1170
Proper Shipping Name ETHANOL more than 24 per cent ethanol, by volume
Hazard Class 3
Packing Group II

Domestic transport regulations (Mexico)

MEX

UN-No UN1170
Proper Shipping Name Etanol
Hazard Class 3
Packing Group II

International transport regulations

ICAO

UN-No UN1170
Proper Shipping Name Ethanol solution
Hazard Class 3
Packing Group II

IATA

UN-No UN1170
Proper Shipping Name Ethanol solution
Hazard Class 3
Packing Group II
ERG Code 3L

IMDG/IMO

UN-No UN1170
Proper Shipping Name Ethanol (Ethyl alcohol)
Hazard Class 3
Packing Group II
EmS No. F-E, S-D

15. REGULATORY INFORMATION

International Inventories

The components of this product are reported in the following inventories:

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	AICS	ENCS ISHL	CHINA	PICCS	KECL	NZIoC
Ethyl alcohol	Yes	Yes	No	Yes 200-578-6	No	Yes	Yes 2-202	Yes	Yes	Yes KE-13217	Yes
Water	Yes	Yes	No	Yes 231-791-2	No	Yes	No	Yes	Yes	Yes KE-35400	Yes

Ethyl acetate	Yes	Yes	No	Yes 205-500-4	No	Yes	Yes 2-726	Yes	Yes	Yes KE-00047	Yes
Methyl alcohol	Yes	Yes	No	Yes 200-659-6	No	Yes	Yes 2-201	Yes	Yes	Yes KE-23193	Yes
Methylisobutyl ketone	Yes	Yes	No	Yes 203-550-1	No	Yes	Yes Present	Yes	Yes	Yes Present	Yes

USA

Federal Regulations

Ozone Depleting Substances:

No Class I or Class II material is known to be used in the manufacture of, or contained in, this product.

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 CFR 372.

Chemical Name	CAS-No	Volume %	SARA 313 - Threshold limits
Methyl alcohol	67-56-1	4.37	1.0% de minimis concentration

CERCLA/SARA 103-302

Sections 103-302 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 CFR 103-302

Chemical Name	CAS-No	Volume %	RQ	TPQ
Ethyl acetate	141-78-6	4.52	5000lb / 2270kg	
Methyl alcohol	67-56-1	4.37	5000 lb / 2270 kg	

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 63)

This product is known to contain the following HAPs:

Chemical Name	CAS-No	Volume %	HAPS
Methyl alcohol	67-56-1	4.37	Present
Methylisobutyl ketone	108-10-1	0.93	Present

State Regulations

California Proposition 65

Chemical Name	CAS-No	Volume %	Category
Ethyl alcohol	64-17-5	83.37	Developmental
Methyl alcohol	67-56-1	4.37	Developmental
Methylisobutyl ketone	108-10-1	0.93	Developmental
Acetaldehyde	75-07-0	TRACE (0.002)	Carcinogen

• Ethanol is only considered a Prop 65 chemical as "ethyl alcohol IN alcoholic beverages" and not as used in fuel or industrial applications

State Right-to-Know

Component Information.

Chemical Name	Volume %	Massachusetts	Minnesota	New Jersey	Pennsylvania
Ethyl alcohol	83.37	Yes	No	Yes 0844	Yes
Water	6.81	No	No	No	No
Ethyl acetate	4.52	Yes	No	Yes 0841	Yes Environmental hazard
Methyl alcohol	4.37	Yes	Yes	Yes 1222	Yes Environmental hazard
Methylisobutyl ketone	0.93	Yes	No	Yes 1268	Yes Environmental hazard

Acetaldehyde	TRACE (0.002)	Yes	Yes	Yes 0001	Yes
Acetone	TRACE (0.0004)	Yes	No	Yes 0006	Yes Environmental hazard

Canada

WHMIS Product Classification

B2 - Flammable liquid. D2B - Materials causing other toxic effects, toxic material. D2A - Materials causing other toxic effects, very toxic material.

WHMIS Ingredient Disclosure List IDL

Component Information

Chemical Name	Volume %	WHMIS IDL	WHMIS Threshold limits
Ethyl alcohol	83.37	Listed	0.1%
Ethyl acetate	4.52	Listed	1%
Methyl alcohol	4.37	Listed	0.1%
Methylisobutyl ketone	0.93	Listed	1%

(NPRI) Canadian National Pollutant Release Inventory

Component Information

Chemical Name	Volume %	NPRI
Ethyl alcohol	83.37	Part 5, Individual Substances Part 4 Substance
Ethyl acetate	4.52	Part 5, Individual Substances Part 4 Substance
Methyl alcohol	4.37	Part 1, Group A Substance; Part 5, Individual Substances; Part 4 Substance
Methylisobutyl ketone	0.93	Part 1, Group A Substance Part 5, Individual Substances Part 4 Substance as set out in Section 65 of the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act, 1999

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

Mexico

Mexico - Grade Serious risk, Grade 3

16. OTHER INFORMATION

Prepared By: ADM Fuels & Industrials
Original Preparation Date: 14-Nov-2014
Revision Date: 14-Nov-2014
Revision Number: 1
Reason for revision: New SDS format. This version replaces all previous versions.

Abbreviations and acronyms
ACGIH TLV - American Conference of Governmental Industrial Hygienists Threshold Limit Values
AICS - Australian Inventory of Chemical Substances (Australia)
A3 - Animal Carcinogen
CAS - Chemical Abstract Service
CHINA - Chinese Inventory of Existing Chemical Substances (China)
DOT - U.S. Department of Transportation
DSL - Domestic Substance List (Canada)
EC50 - Half maximal effective concentration
EINECS - European Inventory of Existing Commercial Chemical Substances (EU)
ELINCS - European List of Notified Chemical Substances (EU)
ENCS - Existing and New Chemical Substances (Japan) / ISHL - Industrial Health and Safety Law (Japan)
GHS - Globally Harmonized System of Classification and Labelling of Chemicals
Group 1 - Carcinogenic to Humans
IATA - International Air Transport Association Dangerous Goods Regulations
IARC - International Agency for Research on Cancer
ICAO - International Civil Aviation Organisation
ICL - In Commerce List (Canada)
IMDG - International Maritime Dangerous Goods Code
IMO - International Maritime Organization
KECL - Korean Existing and Evaluated Chemical Substances (Korea)
LC50 - Lethal concentration that produces fatalities in 50% of a given test population
LD50 - Median lethal dose of a given test population
MEX - NOM-002-SCT/2003 List of Hazardous Substances and Materials Most Commonly Transported
MEXICO - Mexico Occupational Exposure Limits
NDSL - Non Domestic Substances List (Canada)
NFPA - National Fire Protection Association
NIOSH - National Institute of Occupational Safety and Health
NOAEL - No Observed Adverse Effect Level
NTP - National Toxicology Program
NZIoC - New Zealand Inventory of Chemicals (New Zealand)
OECD - Organisation for Economic Co-operation and Development
OSHA - Occupational Safety & Health Administration
OSHA PEL - Occupational Safety and Health Administration Permissible Exposure Limits
PICCS - Inventory of Chemicals and Chemical Substances (Philippines)
PNEC - Predicted No-Effect Concentration
Present - Carcinogen or potential carcinogen to be identified under OSHA's Hazard Communication Standard
STOT - Specific Target Organ Toxicity
TDG - Transportation of Dangerous Goods (Transport Canada)
TSCA - Toxic Substances Control Act, Section 8(b) Inventory (USA)
TWA - Time Weighted Average: Average concentration that should not be exceeded during a work day (usually 8-hours)
vPvB - Very Persistent and Very Bioaccumulative
WHMIS - Workplace Hazardous Materials Information System

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