



Section 1: Identification

GHS Product Identifier: AV-222 Cleaner

Classification: Cleaner

Product Use: Alkali Cleaner

Supplier

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24 HR. EMERGENCY TELEPHONE NUMBER

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Section 2: Hazards Identification

GHS Classification

Hazard Class

Category

Flam. Liq.	2	Highly flammable liquid
Corr. Metals	1	Corrosive to metal
Acute tox.	3	Acute toxicity – Oral
Asp. Haz.	1	Aspiration hazard
Acute tox.	3	Acute toxicity – Dermal
Skin irrit.	1	Skin corrosion/irritation
Acute tox.	3	Acute toxicity - Inhalation
STOT SE – Resp.	3	Specific target organ toxicity – single exposure Respiratory tract
STOT SE -	3	Specific target organ toxicity – single exposure Narcotic effect
STOT SE – Organ	1	Specific target organ toxicity – single exposure Organ damage
Acute haz.	3	Hazardous to aquatic environment – acute hazard

GHS Label Elements

Hazard pictograms:



Signal Word:	Danger
Hazard Statements	
H225	Highly flammable liquid and vapor.
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H370	Causes damage to organs.
H402	Harmful to aquatic life.

Precautionary Statements	
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash with soap & water thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310	IF SWALLOWED: Immediately call a poison center or doctor/physician.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302 + P350	IF ON SKIN: Gently wash with soap & water.
P303 + P361 + P353	IF ON SKIN (OR HAIR): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove victim to fresh air & keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present & easy to do. Continue rinsing.
P307 + P311	If exposed: Call a poison center or doctor/physician.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.

See Sections 8, 11, and 12 for toxicological information.

Section 3: Composition/Information on Ingredients

Weight %	Material	CAS-No.	EINECS#
50-80%	Water	7732-18-5	231-791-2
10-40%	Methanol	67-56-1	200-659-6
10-30%	Potassium Hydroxide	1310-58-3	215-181-3

TRACE COMPONENTS: Trace ingredients (if any) are present in < 1% concentration, (< 0.1% for potential carcinogens, reproductive toxins, respiratory tract mutagens, and sensitizers). None of the trace ingredients contribute significant additional hazards at the concentrations that may be present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalents, and Canadian Hazardous Materials Identification System Standard (CPR 4).

Section 4: First-Aid Measures

Description of First-Aid Measures

General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists, refer to Section 8 for specific personal protective equipment.

If inhaled:

After high vapor exposure, remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, trained personnel should immediately begin artificial respiration. If the heart has stopped, trained personnel should immediately begin cardiopulmonary resuscitation (CPR). Seek immediate medical attention.

If on skin:

If the product contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 15 minutes. Remove contaminated clothing, taking care not to contaminate eyes. If skin becomes irritated and irritation persists, medical attention may be necessary. Wash contaminated clothing before reuse, discard contaminated shoes.

If in eyes:

If this product enters the eyes, check for and remove any contact lenses. Open eyes while under gently running water. Use sufficient force to open eyelids. "Roll" eyes to expose more surface. Minimum flushing is for 15

minutes. Seek immediate medical attention.

If swallowed:

Do not induce vomiting. GET MEDICAL ATTENTION IMMEDIATELY. If person is fully conscious give 1 cup or 8 ounces of water. If medical advice is delayed and if an adult has swallowed several ounces of chemical, then give 3-4 ounces (1/3-1/2 cup) (90-120 ml) of hard liquor such as 80 proof whiskey. For children, give proportionally less liquor at a dose of 0.3 ounce (1 1/2 tsp) (8 ml) liquor for each 10 pounds of body weight, or 2 ml per kg body weight (for example: 1.2 ounce (2 1/3 tablespoon) for a 40 pound child or 36 ml for an 18 kg child).

Rescuers

Victims of chemical exposure must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take a copy of label and SDS to physician or health professional with victim.

Notes to Physicians

In cases where several ounces (60 - 100 ml) have been ingested, consider the use of ethanol and hemodialysis in the treatment. Consult standard literature for details of treatment. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol TM) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol, di- or triethylene glycol, ethylene glycol butyl ether, or methanol intoxication if available. Fomepizol protocol (Brent, J. et al, New England Journal of Medicine, Feb 8, 2001, 344:6, p. 424-9): loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizol until serum methanol, EG, DEG, or TEG are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Maintain adequate ventilation and oxygenation of the patient. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighted against toxicity when considering emptying the stomach. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Most important symptoms and effects, both acute and chronic:

See Section 11 for symptoms/effects, acute & chronic.

Section 5: Fire-Fighting Measures

Fire & Explosive Preventative Measures

No open flames, No sparks, & No smoking. Explosion-proof electrical equipment, lighting.

Suitable (& Unsuitable) Extinguishing Media

Use dry powder, alcohol-resistant foam, water in large amounts, carbon dioxide.

Special Protective Equipment & Precautions for Fire Fighters

Water spray may be ineffective on fire but can protect fire-fighters & cool closed containers. Use fog nozzles if water is used. Do not enter confined fire-space without full bunker gear. (Helmet with face shield, bunker coats, gloves & rubber boots).

Specific Hazards of Chemical & Hazardous Combustion Products

HIGHLY FLAMMABLE!! VAPORS CAN CAUSE FLASH FIRE!

Isolate from oxidizers, acids, heat, sparks, electric equipment & open flame. Closed containers may explode if exposed to extreme heat.

Applying to hot surfaces requires special precautions.

Empty container very hazardous! Continue all label precautions!

Section 6: Accidental Release Measures

Spill and Leak Response and Environmental Precautions

Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people, and respond with trained personnel. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area).

Personal Precautions, Protective Equipment and Emergency Procedures

The proper personal protective equipment for incidental releases (such as: 1 Liter of the product released in a well-ventilated area), use impermeable gloves, they should be Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit and boots, hard-hat, and Self-Contained Breathing Apparatus specific for the material handled, goggles, face shield, and appropriate body protection. In the event of a large release, use impermeable gloves, specific for the material handled, chemically resistant suit and boots, and hard hat. Self-Contained Breathing Apparatus or respirator may be required where engineering controls are not adequate or conditions for potential exposure exist. When respirators are required, select NIOSH/MSHA approved based on actual or potential airborne concentrations in accordance with latest OSHA and/or ANSI recommendations.

Environmental Precautions

Stop spill at source. Construct temporary dikes of dirt, sand, or any appropriate readily available material to prevent spreading of the material. Close or cap valves and/or block or plug hole in leaking container and transfer to another container. Keep from entering storm sewers and ditches which lead to waterways, and if necessary, call the local fire or police department for immediate emergency assistance.

Methods and Material for Containment and Cleaning-Up

Absorb spilled liquid with polypads or other suitable absorbent materials. If necessary, neutralize using suitable buffering material, (acid with soda ash or base with phosphoric acid), and test area with litmus paper to confirm neutralization. Clean up with non-combustible absorbent (such as: sand, soil, and so on). Shovel up and place all spill residue in suitable containers. Dispose of at an appropriate waste disposal facility according to current applicable laws and regulations and product characteristics at time of disposal (see Section 13 - Disposal Considerations).

Section 7: Handling and Storage

Precautions for safe handling:

Use only with adequate ventilation. Avoid breathing of vapor or spray mist. Do not get in eyes, on skin or clothing. Wear OSHA Standard full face shield. Consult Safety Equipment Supplier. Wear goggles, face shield, gloves, apron & footwear impervious to material. Wash clothing before reuse. Avoid free fall of liquid. Ground containers when transferring. Do not flame cut, saw, drill, braze, or weld. Empty container very hazardous! Continue all label precautions! NEVER pour water into this substance. When dissolving or diluting, always add it slowly to the water.

Conditions for safe storage, including any incompatibilities:

Keep in fireproof surroundings. Keep separated from strong oxidants, strong acids, metals, food & feedstuffs. Keep cool. Keep dry. Store in an area having corrosion resistant concrete floor. Do not store above 49 C/120 F. Keep container tightly closed & upright when not in use to prevent leakage. Wear full face shield, gloves & full protective clothing when opening or handling. When empty, drain completely, replace bungs securely.

Section 8: Exposure Controls/Personal Protection

Exposure Limits

Material	CAS No.	EINECS#	TWA	OSHA	TLV	ACGIH
Water	7732-18-5	231-791-2	None	Known	None	Known
Methanol	64-56-1	200-659-6	200	ppm S	200	ppm S
Potassium Hydroxide	1310-58-3	215-181-3	None	Known	None	Known

Material	CAS No.	EINECS#	Ceiling	STEL	HAP
Methanol	64-56-1	200-659-6	None	250 ppm	Yes
Potassium Hydroxide	1310-58-3	215-181-3	2 ppm	None	No

Each component showing 'Yes' under "HAP" is an EPA Hazardous Air Pollutant.

Appropriate Engineering Controls:

Respiratory Exposure Controls

A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z86.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Ventilation

Local Exhaust: Necessary

Mechanical (General): Necessary

Special: None

Other: None

Please refer to ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Individual Protection Measures, such as Personal protective Equipment:

Personal Protection

Wear OSHA Standard full face shield. Consult Safety Equipment Supplier. Wear goggles, face shield, gloves, apron & footwear impervious to material. Wash clothing before reuse.

Work & Hygienic Practices:

Provide readily accessible eye wash stations & safety showers. Wash at end of each work shift & before eating, smoking or using the toilet. Promptly remove clothing that becomes contaminated. Destroy contaminated leather articles. Launder or discard contaminated clothing.

Section 9: Physical and Chemical Properties

Appearance: Liquid, Water-White

Odor: Alcohol

Odor Threshold: Not available

pH: 14.0

Freezing Point: Not available

Boiling Point: 63 78 100* C / 147 174 212* F (*=End Point)

Flashpoint: 12 C / 54 F (TCC)

Evaporation Rate: Not Applicable

Flammability: Class I B

Lower Explosion Limits: 7.3 (Lowest Component)

Upper explosion limits: Not Available

Vapor Pressure: 35.0 (mm of Hg)@20 C

Gravity @ 68/68 F / 20/20 C:

Density: 1.008

Specific Gravity (Water=1): 1.010

Solubility in Water: Complete

Partition Coefficient n-octanol/water: Not Available

Auto-ignition Temperature: 463 C / 867 F

Decomposition Temperature: Not Available

Viscosity: Not Available

VOCs (>0.044 Lbs./Sq. In) : 27.3 Vol% / 275.9 g/L / 2.2 Lbs./Gal

Total VOC'S (TVOC)*: 34.8 Vol% / 275.9 g/L / 2.2 Lbs./Gal

Nonexempt VOC'S (CVOC)*: 34.8 Vol% / 275.9 g/L / 2.2 Lbs./Gal

Hazardous Air Pollutants (HAPS): 30.0 Wt.% / 275.9 g/L / 2.2 Lbs./Gal

Nonexempt VOC Partial Pressure (mm of Hg @ 20 C): 0.0

*Using CARB California Air Resources Board Rules)

Section 10: Stability and Reactivity

Reactivity & chemical stability

Stable under normal conditions, no hazardous reactions when kept from incompatibles.

Possibility of hazardous reactions & conditions to avoid:

Isolate from oxidizers, acids, heat, sparks, electric equipment & open flame.

Incompatible materials

Reacts violently with fire extinguishers containing water. The substance is a strong base, reacts violently with acids and is corrosive. Reacts with water generating sufficient heat to ignite combustible materials. Reacts violently with strong oxidants, strong acids, causing fire & explosion hazard. Attacks many plastics, rubber, coatings, many metals, such as aluminum, zinc, tin, & lead forming flammable/explosive gas (hydrogen). Reacts with ammonium salts to produce ammonia & causing fire hazard. Rapidly absorbs carbon dioxide & water from the air. Contact with moisture will generate heat.

Hazardous decomposition products

Carbon Monoxide, Carbon Dioxide, Potassium Oxide & Hydroxide from burning.

Hazardous polymerization:

Will not occur.

Section 11: Toxicological Information

Acute Hazards**Eye and Skin Contact**

Severe burns to skin, defatting, dermatitis. Severe burns to eyes, redness, tearing, and blurred vision. Liquid can cause severe skin & eye burns. Wash thoroughly after handling.

Inhalation

Severe respiratory tract irritation may occur. Vapor harmful. Breathing vapor can cause irritation. Acute overexposure can cause harm to affected organs by routes of entry. Repeated exposure over TLV can cause blindness. The applicable occupational exposure limit value should not be exceeded during any part of the working exposure.

Swallowing

Can be fatal or cause blindness if swallowed. Cannot be made non-poisonous. POISON! Can cause irreversible nervous system damage & death. Harmful or fatal if swallowed.

Subchronic Hazards / Conditions Aggravated

Pre-existing disorders of any target organs mentioned in this Document can be aggravated by over-exposure by routes of entry to components of this product. Persons with these disorders should avoid use of this product.

Chronic Hazards

Medical Conditions Aggravated by Exposure:

Pre-existing disorders of any target organs mentioned in this Document can be aggravated by over-exposure by routes of entry to components of this product. Persons with these disorders should avoid use of this product.

Target Organs: May cause damage to target organs, based on animal data.

Irritancy: Irritating to contaminated tissue.

Sensitization: No component is known as a sensitizer.

Mutagenicity: No known reports of mutagenic effects in humans.

Embryotoxicity: No known reports of embryotoxic effects in humans.

Teratogenicity: No known reports of teratogenic effects in humans.

Reproductive Toxicity: No known reports of reproductive effects in humans.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate across generational lines. An EMBRYOTOXIN is a chemical which causes damage to a developing embryo (such as: within the first 8 weeks of pregnancy in humans), but the damage does not propagate across generational lines. A TERATOGEN is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A REPRODUCTIVE TOXIN is any substance which interferes in any way with the reproductive process.

Mammalian Toxicity Information

Potassium Hydroxide:

Skin (Human): 50 mg/24 hours, Severe irritating effects

Skin (Adult Rabbit): 50 mg/24 hours, Severe irritating effects

Eye Effects (Adult Rabbit): 1 mg/24 hours, rinse: Moderate irritation

Cytogenetic Analysis (Rat/ast): 1800 mg/kg

LD50 Oral (Rat): 214 mg/kg

Section 12: Ecological Information

All work practices must be aimed at eliminating environmental contamination

Effect of material on plants and animals

This product may be harmful or fatal to plant and animal life if released into the environment. Refer to Section 11 (Toxicological Information) for further data on the effects of this product's components on test animals.

Effect of material on aquatic life

The most sensitive known aquatic group to any component of this product is: Goldfish 250 ppm or mg/L (24 hour exposure). Keep out of sewers and natural water supplies. The substance may be hazardous in the environment. Special attention should be given to water organisms.

Mobility in soil

Mobility of this material has not been determined.

Degradability

This product is completely biodegradable.

Accumulation

Bioaccumulation of this product has not been determined.

Section 13: Disposal Considerations

The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers and liners may retain some product residues. Vapor from some product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Processing, use or contamination may change the waste disposal requirements. Do not dispose of on land, in surface waters, or in storm drains. Waste should be recycled or disposed of in accordance with regulations. Large amounts should be collected for reuse or consigned to licensed hazardous waste haulers for disposal. **ALL DISPOSAL MUST BE IN ACCORDANCE WITH ALL FEDERAL, STATE, PROVINCIAL, AND LOCAL REGULATIONS. IF IN DOUBT, CONTACT PROPER AGENCIES. EPA CHARACTERISTIC: D001,D002**

Section 14: Transport Information

IF > 16666 LB / 7575 KG OF THIS PRODUCT IS IN 1 CONTAINER, IT EXCEEDS THE RQ OF METHANOL.
"RQ" MUST BE PUT BEFORE THE DOT SHIPPING NAME.

Marine Pollutant: No

DOT/TDG Ship Name: UN2924, Flammable liquids, corrosive, n.o.s., 3, (8), PG-II

Drum Label: (FLAMMABLE LIQUID), (CORROSIVE)

IATA / ICAO: UN3286, Flammable liquids, toxic, corrosive, n.o.s., 3, (8),(6.1), PG-II

IMO / IMDG: UN3286, Flammable liquids, toxic, corrosive, n.o.s., 3, (8),(6.1), PG-II

Emergency Response Guidebook Number: 131

Section 15: Regulatory Information

EPA Regulation

SARA Section 311/312 Hazards: Acute Health, Fire

All components of this product are on the TSCA list. SARA Title III Section 313 Supplier Notification : This product contains the indicated <*> toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning & Community Right-To-Know Act of 1986 & of 40 CFR 372. This information must be included in all MSDSs that are copied and distributed for this material.

Sara Title III Ingredients

*Methanol

CAS No. 67-56-1; EINECS# 200-659-6; Wt.% 25-35; (Reg. Section) 311,312, 313, RCPA; RQ (lbs.) 5000
Any release equal to or exceeding the RQ must be reported to the National Response Center (800-424-8802) and appropriate state and local regulatory agencies as described in 40 CFR 302.6 and 40 CFR 355.40 respectively. Failure to report may result in substantial civil and criminal penalties. State & local regulations may be more restrictive than federal regulations.

State Regulations

THIS PRODUCT MEETS REQUIREMENTS OF SOUTHERN CALIFORNIA AQMD RULE 443.1 & SIMILAR REGULATIONS CALIFORNIA SAFE DRINKING WATER & TOXIC ENFORCEMENT ACT (PROPOSITION 65): This product contains the following chemical known to the State of California to cause reproductive toxicity: Methanol.

International Regulations

The identified components of this product are listed on the chemical inventories of the following countries: Australia (AICS), Canada (DSL or NDSL), China (IECSC), Europe (EINECS, ELINCS), Japan (METI/CSCL, MHLW/ISHL), South Korea (KECI), New Zealand (NZIoC), Philippines (PICCS), Switzerland (SWISS), Taiwan (NECSI), USA (TSCA).

Canada: Workplace Hazardous Materials Information System (WHMIS)

B2: Flammable Liquid.

D2B: Irritating to skin / eyes.

E: Corrosive Material.

This product was classified using the hazard criteria of the Controlled Products Regulations (CPR). This Document contains all information required by the CPR.

Section 16: Other Information

Hazard ratings: Health (NFPA):1, Health (HMIS): 3, Flammability: 3, Physical hazard:0

This information is intended solely for the use of individuals trained in the NFPA & HMIS hazard rating systems.

The information provided in this Safety Data Sheet is correct to the best of Avanti International's knowledge, information and belief at the date of this publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process, unless specified in the text. AVANTI INTERNATIONAL MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. Given the variety of factors that can affect the use and application of this product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the product to determine whether it is fit for a particular purpose and suitable for user's method of use or application. Each user is also responsible for evaluating the conditions of use and designing the appropriate protective mechanisms to prevent employee exposures, property damage, or release to the environment. Avanti International assumes no responsibility for injury to the recipient or third persons or for any damage to any property resulting from misuse of the product.