G.J. CHEMICAL COMPANY, INC. SAFETY DATA SHEET

1. PRODUCT IDENTIFIER

1.1 PRODUCT NAME: SPEC. DENATURED ALCOHOL 3C 200

PRODUCT NUMBER(S): 260900

TRADE NAMES/SYNONYMS: Denatured Alcohol, SDA-3C Alcohol,

CHEMICAL FAMILY: Hydroxyl, Aliphatic

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST
RECOMMENDED USE: As a solvent; Coatings, Transparent Sheeting, Adhesives, Polishes, Inks, Stains, Soaps, Shampoos. As a raw material; Ethylamines, medicinal chemicals. As a fuel; Airplane, Rocket and Jet Fuels, Proprietary Heating Fuels. Other uses; Cutting Oils, Refrigerating Use, Gen. Lab use.

USES ADVISED AGAINST: No information available.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: G.J. CHEMICAL CO., INC.
Address: 40 VERONICA AVENUE
SOMERSET, NJ 08873
Telephone: 1-973-589-1450
Fax: 1-973-589-3072

1.4 Emergency Telephone Number
Emergency Phone: 1-800-424-9300 (CHEMTREC)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29CFR 1910 (OSHA HCS)
Flammable liquids (Category 2), H225
Eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

2.2 GHS Label elements, including precautionary statements

Pictogram

GHS02 GHS07

Signal word: DANGER

Hazard statement(s)
H225 Highly flammable liquid and vapor.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statement(s)
Prevention:
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.
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
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
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 dry sand, dry chemical or alcohol-resistant foam for extinction.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.
2.3 Hazards not otherwise classified (HNOC) or not covered by GHS:
May form explosive peroxides.

3. INGREDIENTS

COMPONENT	CAS NO.	% BY WT.	CLASSIFICATION
Ethyl Alcohol	64-7-5 EC-No.200-578-6 Index-No.603-002-00-5 Reg.-No.1-2119457610-43-XXXX	95-96%	Flammable liquids (Category 2), H225
Isopropyl Alcohol	67-63-0 EC-No.200-661-7 Index-No.603-117-00-0 Reg.-No.0-2119457558-25-XXXX	4.5-5.0%	Flammable liquids (Category 2), H225 Eye irritation (Category 2A), H319 STOT-SE (Category 3), Central Nervous System, H336
WATER	7732-18-5 EC-No. 231-791-2	0.1 max.	Not a hazardous substance or mixture.
Non-volatile Matter		0.001% max	

Less than 0.5% miscellaneous organic contaminants not tested for.

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4. FIRST-AID MEASURES

General Advice: Take proper precautions to ensure you own health and safety before attempting rescue and providing first aid. Show this SDS to the doctor in attendance

4.1 DESCRIPTION OF FIRST AID MEASURES

INHALATION:

****FIRST AID*- Remove from exposure area to fresh air immediately. If breathing has stopped, give artificial respiration. Maintain airway and blood pressure and administer oxygen if available. Keep affected person warm and at rest. Treat symptomatically and supportively. Administration of oxygen should be performed by qualified personnel. Get medial attention immediately.**

SKIN CONTACT:

****FIRST AID*- Remove contaminated clothing and shoes immediately, wash affected area with soap or mild detergent and large amounts of**

water until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.

EYE CONTACT:

***FIRST AID*- Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains (at least 15-20 minutes). Remove contact lenses, if worn, after initial flush. Continue irrigating with normal saline until the ph has returned to normal (30-60 minutes). Cover with sterile bandages. Get medical attention immediately.**

INGESTION:

***FIRST AID*- Removal of ethyl alcohol by gastric lavage with tap water or emesis should be performed by qualified medical personnel(Dreisbach, Handbook of Poisoning, 11th ed.) or by gastric lavage with warm water or 3-5% sodium bicarbonate solution unless two hours or more have passed since ingestion (Gosselin, Clinical Toxicology of Commercial Products). Syrup of ipecac may be given promptly following ingestion.**

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

Inhalation: Exposure to high concentrations has a narcotic effect when inhaled, production symptoms of drowsiness, headache, staggering, unconsciousness and possibly death.

Skin: Contact with skin has a de-fatting action that can cause irritation. May cause irritation with a stinging effect and burning sensation. Contact dermatitis has been reported in a few sensitive individuals. Substance may be dermally absorbed resulting in systemic toxicity as detailed in acute ingestion. Toxic effects may become more marked if absorption and inhalation occur concurrently.

Eyes: Splashes in eyes may cause severe irritation, possible corneal burns and eye damage.

Ingestion: May cause drowsiness, unconsciousness, and death. Gastrointestinal pain, cramps, nausea, vomiting, and diarrhea may also result. Vomiting with aspiration may cause aspiration pneumonia.

The components in this formulation may cause chronic kidney and liver damage. Chronic intoxication may result in weight loss, degenerative changes in the liver, kidneys, and brain, gastroenteritis with anorexia and diarrhea, and cirrhosis of the liver. Repeated ingestion may cause visual impairment and blindness and other systemic effects as detailed in acute ingestion.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:

****ANTIDOTE****

The following antidote has been recommended. However, the decision as to whether the severity of poisoning requires administration of any antidote and actual dose required should be made by qualified medical personnel.
ETHANOL POISONING:
Naloxone, 0.01 MG/KG, intravenously, has an arousal effect in acute alcoholic coma (Dreisbach, Handbook of Poisoning, 11th ed.). Antidote should be administered by qualified medical personnel.

5. FIRE FIGHTING MEASURES

FLASH POINT: 14°C (57°F) (CC) **UPPER EXPLOSIVE LIMIT: 19% (V)**
AUTOIGNITION TEMP: 363°C (685°F) **LOWER EXPLOSIVE LIMIT: 3.3% (V)**
UNIFORM FIRE CODE: Flammable Liquid Class 1B

5.1 SUITABLE EXTINGUISHING MEDIA:

DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR ALCOHOL-RESISTANT FOAM FOR LARGER FIRES, USE WATER SPRAY, FOG OR ALCOHOL-RESISTANT FOAM
Unsuitable extinguishing media: Do not use waterjet.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

FIRE AND EXPLOSION HAZARD: DANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK. VAPOR-AIR MIXTURES ARE EXPLOSIVE ABOVE FLASH POINT.
Dangerous fire hazard when exposed to heat. Vapor may explode if ignited in an enclosed area.

CONDITIONS OF FLAMMABILITY: Flammable in the presence of a source of ignition when the temperature is above the flash point.

HAZARDOUS COMBUSTION PRODUCTS: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, carbon oxides, nitrogen oxides and other unidentified organic compounds evolve when this material undergoes combustion.

5.3 ADVICE FOR FIREFIGHTERS:

Shut off source. Keep unnecessary people away; isolate hazard area and deny entry. Avoid breathing vapors, stay upwind Do not spray pool fires directly. A solid stream of water or foam directed into hot burning liquid can cause frothing. Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any

discoloration of tank due to fire. Water fog may be used to cool closed containers to prevent pressure build up and possible auto ignition or explosion when exposed to extreme heat. Cool containers with water-fog from as far a distance as possible. Wear NIOSH/MSHA approved self-contained breathing apparatus (SCBA) for confined spaces. Use full fire-fighting protective clothing. If protective equipment is not available or not used, fight fire from a protected location or safe distance. Water may be used to flush spills away from exposures and to dilute spills to non-flammable mixtures.

⑥. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Flammable Liquid; Eliminate ignition sources in the vicinity of the spill or released vapor. Immediately evacuate all nonessential people. Verify that responders are properly trained and wearing appropriate respiratory equipment and fire resistant protective clothing during cleanup operations.

6.2 ENVIRONMENTAL PRECAUTIONS:
Keep out of water sources, drains and sewers. Do not flush into surface water or sanitary sewer system.

6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:
Methods for cleanup and containment:
Use explosion proof equipment and equipment that can withstand the corrosive nature of this product. Shut off valves, contain spill, keep out of water sources and sewers, for smaller spills add non-flammable absorbent in spill area. Stop leak if you can do it without risk. Use water spray to reduce vapors. For large spills use water on spill to minimize vapors clean up by vacuuming then using non-flammable absorbent.
Methods for disposal:
Place all saturated absorbent, using non-sparking tools, in an approved container for disposal. Minimize breathing vapors and skin contact, ventilate confined areas, open all windows and doors, assure conformity with applicable government regulations. Do not touch spilled material.

6.4 REFERENCE TO OTHER SECTIONS: See Sections 8 and 13.

⑦. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING: This material presents a fire hazard. Invisible vapor spreads easily and can be set on fire by many sources, such as pilot lights, welding equipment, and electrical motors and switches. Vapor is heavier than air and can travel considerable distance to a source of ignition and flash back. Avoid breathing vapors in top of shipping container. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid work

practices that may release volatile components in the atmosphere. Avoid contaminating soil or releasing material into sewage and drainage systems. Use non-sparking tools to open or close containers. Keep away from heat, sparks and flame. Keep container tightly closed and upright to prevent leakage. Use only with adequate ventilation. Prevent buildup of vapors. Extinguish all pilot lights and turn off heater, non explosion-proof electrical equipment and other sources of ignition during use and until all vapors are gone. Avoid contact with eyes. Avoid prolonged or repeated breathing of vapor. Avoid prolonged or repeated contact with skin. Wash hands thoroughly after handling.

Advice on general occupational hygiene:
Wash hands before breaks and after work. Keep away from food, drink and animal feeding stuffs. When using do not smoke.

STATIC HAZARD: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not be sufficient. For more information refer to OSHA Standard 29CFR 1910.106 "Flammable and Combustible Liquids" and National Fire Protection Association (NFPA 77) "Recommended Practice on Static Electricity".

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Follow maximum allowed pile heights specified in the BOCA codes or the NFPA manual. Local fire authorities should be notified for storage of this material in any quantity. Local permits are required for storage in warehouse quantities. Store in a well ventilated place, away from sources of ignition and direct sunlight. Store at 15 to 30°C (59 to 86 °F). In laboratory quantities, store away from oxidizing material, mineral acids, and chloroform. Store denatured alcohol in areas equipped with automatic sprinklers or fire extinguishing system. All denatured alcohol storage and transfer equipment should be electrically grounded and bonded to prevent possible ignition from static sparks. Use spark resistant equipment to store denatured alcohol. So not use air pressure to unload denatured alcohol from containers. Containers of this material may be hazardous when empty. Since emptied containers retain product residues, assume emptied containers to have the same hazard qualities as full containers.

CONTAINER WARNINGS: Containers should be Bonded and Grounded when pouring. Avoid free fall of liquid in excess of a few inches. Empty containers release residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, or expose such containers to heat, sparks, static electricity or other sources of ignition. Do not attempt to clean.
"Empty" drums should be completely drained, properly bunged and promptly returned to a drum re-conditioner.

7.3 SPECIFIC END USES: Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

⑧. EXPOSURE CONTROL (PERSONAL PROTECTION)

8.1 CONTROL PARAMETERS:

COMPONENT	CAS NO.	% BY WT.	EXPOSURE LIMITS
Ethyl Alcohol	64-7-5 EC-No.200-578-6 Index-No.603-002-00-5 Reg.-No.1-2119457610-43-XXXX	95-96%	1000PPM TWA (ACGIH) 1000PPM TWA (NIOSH) 1000PPM TWA (OSHA)
Isopropyl Alcohol	67-63-0 EC-No.200-661-7 Index-No.603-117-00-0 Reg.-No.0-2119457558-25-XXXX	4.5%-5.0%	200PPM TWA (ACGIH) 400PPM STEL (ACGIH) 400PPM TWA (NIOSH) 500PPM STEL (NIOSH) 400PPM TWA (OSHA) 500PPM STEL (OSHA)
WATER	7732-18-5 EC-No. 231-791-2	0.1% max.	
Non-volatile Matter		0.001% max	

Less than 0.5% miscellaneous organic contaminants not tested for.

Key: (PEL) = Permissible Exposure Limit OSHA
(TLV) = Threshold Limit Value OSHA & ACGIH
(STEL) = Short Term Exposure Limit ACGIH
(WEEL) = USA. Workplace Environmental Exposure Levels
(TWA) = Time Weighted Average
CAS = Chemical Abstracts Registry Number
IDLH = Immediate Danger to Life and Health
N.E. =None Established

8.2 EXPOSURE CONTROLS

EXPOSURE GUIDELINES: Consider the potential hazards of this material (Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended.

ENGINEERING CONTROLS: Provide general dilution or local exhaust ventilation in volume and pattern to keep concentrations within permitted exposure limits. All areas should be ventilated in accordance with OSHA Regulation 29 CFR Part 1910. Explosion proof motors should be used in mechanical ventilation.

RESPIRATORY PROTECTION: The following respirators are recommended based on information found in the physical data, toxicity and health effects sections. They are ranked in order from minimum to maximum respiratory protection.
The specific respirator selected must be based on contamination levels found in the work place, must be based on the specific operation, must not exceed the working limits of the respirator and must be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration

(NIOSH-MSHA).

Any chemical cartridge respirator with organic vapor cartridge(s) and a full face-piece.

Any gas mask with organic vapor canister (chin style or front- or back-mounted canister), with a full face-piece.

Any type 'C' supplied air respirator full face-piece operated in pressure-demand or other positive-pressure mode or with a full face-piece, helmet or hood operated in a continuous-flow mode.

Any self-contained breathing apparatus with a full face-piece operated in pressure-demand or other positive-pressure mode.

BODY CLOTHING: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged contact with this substance. Use chemical resistant apron or other impervious clothing. Remove and wash contaminated clothing before reuse.

SKIN PROTECTION: Employee must wear appropriate protective gloves to prevent contact with this substance.
Full contact:
Material: Nitrile rubber
Minimum layer thickness: 0.4 mm
Break through time: 480 min
Splash contact:
Material: Nitrile rubber
Minimum layer thickness: 0.2 mm
Break through time: 60 min

HYGIENE: Use good personal hygiene practices, wash hands before eating, drinking, smoking or using toilet facilities.

EYE/FACE PROTECTION: Use safety eyewear with splash-guards or face shield. Contact lenses should not be worn.
Emergency shower and eyewash should be easily accessible to the work area.

⑨. PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

Special Denatured Alcohol (SDA) 3C200

APPEARANCE:	**Watery liquid**
COLOR:	**Colorless**
ODOR:	**Characteristic sweetish alcohol odor**
ODOR THRESHOLD:	**5-10ppm**
pH:	**No data available**

MOLECULAR WEIGHT:	**46.07 amu**
MELTING POINT:	**-144°C (-227°F)**
BOILING POINT:	**78-80°C (172-176°F)**
SPECIFIC GRAVITY:	**0.791@20°C (68.0°F)**
DENSITY (25°C):	**0.7893 g/ml (25°C) (77.0°F)**
VAPOR PRESSURE:	**41.4 mm Hg @ 20°C (68.0°F)**
VAPOR DENSITY:	**1.6**
WATER SOLUBILITY:	**Complete**
PARTITION COEFFICIENT N-OCTANOL/WATER	**No data available**
FLASH POINT:	**14°C (57°F)**
EVAPORATION RATE (BUTYL ACETATE=1):	**3**
UPPER FLAMMABILITY LIMIT:	**19% (V)**
LOWER FLAMMABILITY LIMIT:	**3.3% (V)**
AUTO INGNITION TEMPERATURE:	**363°C (685°F)**
DECOMPOSITION TEMPERATURE:	**No data available**
VISCOSITY:	**No data available**
EXPLOSIVE PROPERTIES:	**No data available**
OXIDIZING PROPERTIES:	**No data available**

9.2 OTHER INFORMATION: **No data available**

10. STABILITY AND REACTIVITY INFORMATION

10.1 REACTIVITY: No data available.

10.2 CHEMICAL STABILITY: Unstable ( ) Stable (X)

10.3 POSSIBILITY OF HAZARDOUS REACTIONS: Vapors may form explosive mixtures with air.

HAZARDOUS POLYMERIZATION: May occur ( ) Will not occur (X)

10.4 CONDITIONS TO AVOID: Heat, Sparks, Pilot Lights, Static Electricity, and Open Flame.

10.5 INCOMPATIBILITIES: ETHYL ALCOHOL (ETHANOL):

ACETIC ANHYDRIDE AND SODIUM HYDROGEN SULFATE: Possible explosion.
ACETYL CHLORIDE: Violent reaction.
ACETYL BROMIDE: Violent reaction.
ALKALI METALS: Liberates flammable hydrogen gas.
ALUMINUM HYDROXIDE AND SILVER (I) OXIDE: Formation of explosive silver nitride.
BARIUM PERCHLORATE: Formation of explosive compound.
BROMINE PENTAFLUORIDE: Ignition and explosions are possible.
CALCIUM HYPOCHLORITE: Possible explosion.
CHLORINE TRIOXIDE: Violent reaction.
CHLORYL PERCHLORATE: Possible ignition.

CHRONIC ANHYDRIDE: Ignition.
CHROMIUM TRIOXIDE: Possible ignition.
CHROMYL CHLORIDE: Ignition.
DIOXYGEN DIFLUORIDE: Possible explosion.
DISULFURIC ACID AND NITRIC ACID: Possible ignition.
DISULFURYL DIFLUORIDE: Violent reaction.
FLUORINE NITRATE: Explosion.
HYDROGEN PEROXIDE: Formation of highly explosive shock-sensitive compound.
HYDROGEN PEROXIDE-SULFURIC ACID MIXTURE: Explosion.
IODINE HEPTAFLUORIDE: Ignition
IODINE-MERCURIC OXIDE-METHYL ALCOHOL MIXTURE: Possible explosion.
IODINE AND PHOSPHORUS: Formation of explosive ethane iodide.
MANGANESE PERCHLORATE AND 2,2-DIMETHOXY PROPANE: Possible explosion.
MERCURIC NITRATE: Formation of explosive compound.
NITRIC ACID: Violent reaction.
NITROSYL PERCHLORATE: Possible explosion.
OXIDIZERS (STRONG): Fire and explosion hazard.
PERCHLORATES: May form explosive compound when mixed.
PERCHLORIC ACID: Explosion.
PERMANGANIC ACID: Ignition or explosion.
PERMANGANATES AND SULFURIC ACID: Explosion.
PEROXYDISULFURIC ACID: Possible explosion.
PHOSPHORUS (III) OXIDE: Ignition.
PLATINUM: Ignition.
POTASSIUM: Violent reaction.
POTASSIUM DIOXIDE: Violent reaction, possible explosion.
POTASSIUM PERCHLORATE: Possible explosion.
POTASSIUM PERMANGANATE: Possible explosion.
POTASSIUM TERT-BUTOXIDE: Ignition.
RUTHENIUM (VIII) OXIDE: Formation of explosive compound.
SILVER AND NITRIC ACID: Formation of explosive compound.
SILVER NITRATE: Formation of explosive compound.
SILVER PERCHLORATE: May form explosive compound when mixed.
SODIUM-AIR: Possible explosion.
SODIUM HYDRAZIDE: May cause violent explosion on contact.
SODIUM PEROXIDE: Violent reaction.
SULFURIC ACID AND SODIUM DICHROMATE: Possible explosion.
TETRACHLOROSILANE: Violent reaction.
URANIUM HEXAFLUORIDE: Violent reaction.
URANYL PERCHLORATE: May form explosive compound when mixed.

10.5 INCOMPATIBILITIES:ISOPROPYL ALCOHOL (2-PROPANOL):

ACIDS: Incompatible.
ACIDS ANHYDRIDES: Incompatible.
ALUMINUM: Dissolution is exothermic.
BARIUM PERCHLORATE: Formation of explosive compound.
2-BUTANONE (METHYL ETHYL KETONE): Accelerates the peroxidation of the alcohol.
CHROMIUM TRIOXIDE (GRANULAR): Ignition.
COATINGS: May be attacked.
DIOXYGENYL TETRAFLUOROBORATE: Ignition at ambient temperatures.
HALOGENS: Incompatible.

HYDROGEN + PALLADIUM (PARTICLES): Ignition on exposure to air.
HYDROGEN PEROXIDE: Formation of explosive compound.
KETONES: Markedly increases the possibility of peroxidation.
NITROFORM (TRINITROMETHANE): Dissolves liberating heat and possibly exploding.
OLEUM: Temperature and pressure increase in closed container.
OXIDIZERS (STRONG): Fire and explosion hazard.
OXYGEN (GAS): Autoxidation, on exposure to light, results in formation of ketones and potentially explosive hydrogen peroxide.
PHOSGENE: In the presence of iron salts, may explode.
PLASTICS: May be attacked.
POTASSIUM TERT-BUTOXIDE: Ignition.
RUBBER: May be attacked.
SODIUM DICHROMATE + SULFURIC ACID: Exothermic reaction with possible incandescence.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition products may include toxic and hazardous fumes of formaldehyde and oxides of carbon.

11. TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

Routes of Entry: Inhalation--> x Skin--> x Ingestion--> x Eye--> x

ACUTE HEALTH EFFECTS:

Effects of overexposure:

Inhalation: Exposure to high concentrations has a narcotic effect when inhaled, production symptoms of drowsiness, headache, staggering, unconsciousness and possibly death.

Skin: Contact with skin has a de-fatting action that can cause irritation. May cause irritation with a stinging effect and burning sensation. Contact dermatitis has been reported in a few sensitive individuals. Substance may be dermally absorbed resulting in systemic toxicity as detailed in acute ingestion. Toxic effects may become more marked if absorption and inhalation occur concurrently.

Eyes: Splashes in eyes may cause severe irritation, possible corneal burns and eye damage.

Ingestion: May cause drowsiness, unconsciousness, and death. Gastrointestinal pain, cramps, nausea, vomiting, and diarrhea may also result. Vomiting with aspiration may cause aspiration pneumonia.

The components in this formulation may cause chronic kidney and liver damage. Chronic intoxication may result in weight loss, degenerative changes in the liver, kidneys, and brain, gastroenteritis with anorexia and diarrhea, and cirrhosis of the liver. Repeated ingestion may cause visual impairment and blindness and other systemic effects as detailed in acute ingestion.

Eye: Prolonged or repeated exposure to vapors may cause conjunctivitis.

ACUTE TOXICITY:

The effects of overexposure shown in Section II are based on acute animal toxicity profiles. Typical values are:

Ingredient	Oral LD50 (Rat)	Skin LD50(Rabbit)	Inhalation LC50
Ethanol	4060mg/kg	963mg/kg	20000ppm/10h
Isopropyl Alcohol	5045mg/kg	12800mg/kg	16000ppm/8h

ETHYL ALCOHOL: (ETHANOL)
SKIN CORROSION/IRRITATION : Skin - Rabbit Result: No skin irritation - 24 h (OECD Test Guideline 404)
SERIOUS EYE DAMAGE/EYE IRRITATION: Eyes - Rabbit Result: Moderate eye irritation (OECD Test Guideline 405)
RESPIRATORY IRRITATION: No data available.
RESPIRATORY OR SKIN SENSITIZATION: No data available
MUTAGENIC EFFECTS: No information available.
CARCINOGEN STATUS:
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Specific target organ toxicity (STOT-SE) - single exposure (Globally Harmonized System): no data available
Specific target organ toxicity (STOT-RE) - repeated exposure (Globally Harmonized System): no data available
ASPIRATION HAZARD: No data available.
11.2 ADDITIONAL INFORMATION: No data available.

ISOPROPYL ALCOHOL (2-PROPANOL):
SKIN CORROSION/IRRITATION: Skin - Rabbit Result: Mild skin irritation - 24 h
SERIOUS EYE DAMAGE/EYE IRRITATION: Eyes - Rabbit Result: Eye irritation 24 h
RESPIRATORY OR SKIN SENSITIZATION: No data available.
MUTAGENIC EFFECTS: No data available.
CARCINOGEN STATUS:
(IARC Group-3). Strong acid manufacturing process: human sufficient evidence (IARC Group-1). Workers involved in the manufacture of isopropyl alcohol by the strong-acid process, involving the formation of isopropyl oils, showed an increase in para-nasal and laryngeal cancer.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
REPRODUCTIVE TOXICITY: No information available.
SPECIFIC TARGET ORGAN TOXICITY (STOT-SE) - single exposure GHS
May cause drowsiness or dizziness.
SPECIFIC TARGET ORGAN TOXICITY (STOT-RE) - repeated exposure GHS
no data available
AT INCREASED RISK FROM EXPOSURE: Persons with pre-existing skin disorders; impaired liver, renal and/or pulmonary function.
11.2 ADDITIONAL DATA: Central nervous system depression, prolonged or repeated exposure can cause: Nausea, Headache, Vomiting, narcosis, Drowsiness, Overexposure may cause mild, reversible liver effects. Aspiration may lead to:, Lung edema, Pneumonia
Potentiates the effects of carbon tetrachloride and other hepatotoxic chlorinated aliphatic hydrocarbons.

12. ECOLOGICAL INFORMATION

DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS
May be dangerous if it enters water intakes.
Notify local health and pollution control officials.
Notify operators of nearby water intakes.

ETHYL ALCOHOL:
12.1 AQUATIC TOXICITY
Toxicity to fish:
LC-50 Carassius auratus (Goldfish) 250 PPM - 6 h-lethal in fresh water.
12.2 PERSISTANCE AND DEGRADABILITY:
12.3 BIOACCUMULATIVE POTENTIAL: No data available
Biological Oxygen Demand (BOD): 125% 5 days, 44.2% (theoretical) 5 days, 71.2% (theoretical) 20 days
Bio-concentration Factor (BCF): no data available.
12.4 MOBILITY IN SOIL: Mobile
12.5 RESULTS OF PBT AND vPvB ASSESSMENT: This substance does not meet the criteria for classification as PBT or vPvB.
12.6 OTHER ADVERSE EFFECTS: Do not allow this material to enter streams, sewers and other waterways.

ISOPROPYL ALCOHOL (2-PROPANOL):
12.1 AQUATIC TOXICITY (Acute):

Toxicity to fish:
LC50 - Pimephales promelas (fathead minnow) - 9,640.00 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates:
EC50 - Daphnia magna (Water flea) - 5,102.00 mg/l - 24 h
Immobilization EC50 - Daphnia magna (Water flea) - 6,851 mg/l - 24 h
Toxicity to algae:
EC50 - Desmodesmus subspicatus (green algae) - > 2,000.00 mg/l - 72 h
EC50 - Algae - > 1,000.00 mg/l - 24 h
12.2 PERSISTANCE AND DEGRADABILITY: Data not available.
12.3 BIOACCUMULATIVE POTENTIAL:
log Pow <=4 No bioaccumulation is expected
12.4 MOBILITY IN SOIL: No data available.
12.5 RESULTS OF PBT AND vPvB:
PBT assessment results: This substance is not classified as PBT or vPvB.
12.6 OTHER ADVERSE EFFECTS: No data available.

13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS: Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly it is the responsibility of the user to determine the proper storage, transportation, treatment and or disposal methodologies for spent materials and residues at time of disposition. Dispose in accordance with all applicable disposal regulations. Incinerate under controlled conditions in a permitted facility.

CONTAMINATED PACKAGING: Dispose of as unused product

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

RCRA: The unused product is a RCRA hazardous waste if discarded. The RCRA ID number is: D001 or the appropriate spent solvent code.
DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 48 CFR 262

14. TRANSPORT INFORMATION

Ground Transportation
14.1 USDOT ID Number----------> UN1987
14.2 USDOT Shipping Name----------> Alcohols, n.o.s. (Ethanol, Isopropanol)
14.3 USDOT Hazard Classification-------> 3 (Flammable Liquid)
USDOT Label Codes----------> 3 Required (if not excepted)
14.4 USDOT Package Code----------> II

14.5 Marine Pollutant----------> No
14.6 Special precautions for user--------> None
Emergency Response Guide--------> 127
Reportable quantity----------> None

IMDG
14.1 ID Number----------> UN1987
14.2 Proper shipping name----------> ALCOHOLS N.O.S. (ETHANOL, ISOPROPANOL)
14.3 Hazard Classification----------> 3 (Flammable Liquid)
Label Codes----------> 3
14.4 Package Code----------> II
14.5 Marine Pollutant----------> No
14.6 Special precautions for user----------> None
EMS-Number----------> F-E, S-D

IATA
14.1 ID Number----------> UN1987
14.2 Proper shipping name----------> Alcohols, n.o.s. (Ethanol, Isopropanol)
14.3 Hazard Classification----------> 3 (Flammable Liquid)
Label Codes----------> 3
14.4 Package Code----------> II
14.5 Environmental hazard----------> None
14.6 Special precautions for user----------> None

15. REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE:

SARA TITLE III (Superfund Amendment and Reauthorization Act)
SECTION 302 AND 304: Extremely Hazardous Substance List (40 CFR 355) - Not Listed

SECTION 313: Toxic Chemicals Listing (40 CFR 372.65) – Not listed
SECTION 311: Hazard Categorization (40 CFR 370) – Acute Health Hazard, Chronic Health Hazard, and Fire Hazard.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)
SECTION 102(A) Hazardous Substances (40 CFR 302.4) – Not Listed

Reportable Quantity - None
SECTION 101(14) Reportable Quantity: None

Massachusetts Right to Know Components
2-Propanol CAS-No.67-63-0
Ethanol CAS-No.64-17-5

Pennsylvania Right to Know Components
2-Propanol CAS-No.67-63-0
Ethanol CAS-No.64-17-5

New Jersey Right to Know Components
2-Propanol CAS-No.67-63-0
Ethanol CAS-No.64-17-5

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

ATF (Alcohol Tobacco and Firearms)
Denatured Alcohol, formula 3C is regulated by the ATF and subject to certain record keeping and reporting requirements.

TSCA (Toxic Substance Control Act)
Ethanol CAS-No.64-17-5 and 2-Propanol CAS-No.67-63-0 are listed on the TSCA Inventory.

15.2 CHEMICAL SAFETY ASSESSMENT: A chemical safety assessment has not been carried out for this mixture.

16. OTHER INFORMATION:

HMIS (Hazardous Materials Identification System)
Hazard Rating:
4-Extreme
3-High
2-Moderate
1-Slight
0-Insignificant

NFPA RATINGS (SCALE 0-4):	**Health=2**	**Fire=3**	**Reactivity=0**	
HMIS RATINGS (SCALE 0-4):	**Health=2**	**Fire=3**	**Reactivity=0**	**PPE=G**

Hazard statement(s) from Section 2 and 3:
H225 Highly flammable liquid and vapor.
H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

Date of preparation--------> September 26, 2014
Revision Number----------> 1.2
Revision Content----------> General update all sections
Revision Date----------> November 13, 2018
Prepared by----------> T.G. Fenstermaker Jr

Acronyms:

ACGIH	**-**	**American Conference of Governmental Industrial Hygenists**
AIHA	**-**	**American Industrial Hygiene Association**
ANSI	**-**	**American Nation Standards Institute**
API	**-**	**American Petroleum Institute**
CERCLA	**-**	**Comprehensive Emergency Response, Compensation, and Liability Act**
DOT	**-**	**U.S. Department of Transportation**
EPA	**-**	**U.S. Environmental Protection Agency**
HMIS	**-**	**Hazardous Materials Information System**
IARC	**-**	**International Agency For Research On Cancer**
MSHA	**-**	**Mine Safety and Health Administration**
NFPA	**-**	**National Fire Protection Association**
NIOSH	**-**	**National Institute of Occupational Safety and Health**
NOIC	**-**	**Notice of Intended Change (Proposed change to ACGIH TLV)**
NTP	**-**	**National Toxicology Program**
OPA	**-**	**Oil Pollution Act of 1990**
OSHA	**-**	**U.S. Occupational Safety & Health Administration**
PEL	**-**	**Permissible Exposure Limit (OSHA)**
RCRA	**-**	**Resource Conservation and Recovery Act**
REL	**-**	**Recommended Exposure Limit (NIOSH)**
SARA	**-**	**Superfund Amendments and Reauthorization Act of 1986 Title III**
SCBA	**-**	**Self-Contained Breathing Apparatus**
STEL	**-**	**Short-Term Exposure Limit (generally 15 minutes)**
TLV	**-**	**Threshold Limit Value**
TSCA	**-**	**Toxic Substances Control Act**
TWA	**-**	**Time Weighted Average (8hr.)**
WHMIS	**-**	**Canadian Workplace Hazardous Materials Information System**