SAFETY DATA SHEET

TO COMPLY WITH OSHA HAZARD COMMUNICATION STANDARD 29 CFR.1910.1200 & THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS

SECTION 1: Identification of the Substance/Mixture and of the Company / Undertaking

1.1 Product Identifier

Product form:	Substance
Substance name:	**ORCA ISOPROPYL ALCOHOL** (2-Propanol)
CAS No	67-63-0
Product code:	2035D
Formula:	C3H8O
Synonyms:	1-methylethanol / 1-methylethyl alcohol / 2-hydroxypropane / dimethyl carbinol / ethyl carbinol / hydroxypropane / IPA / i-propanol / isoethylcarbinol / propan-2-ol / sec-propanol

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture:	Disinfectant
	Solvent

1.3 Details of the supplier of the safety data sheet

Fiberlay Inc.
1468 Northgate Blvd
Sarasota, FL 34234 - USA
T 782-0660 or 1-800-782-0662

1.4 Emergency telephone number

Emergency number: CHEMTREC: 1-800-424-9300

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture

GHS-US classification
Flam. Liq 2 H225
Eye Irrit. 2A H319
STOT SE 3 H336

2.2 Label elements

GHS-US labelling
Hazard pictograms (GHS-US)

GHS02 GHS07

Signal word (GHS-US):	Danger	
Hazard statements (GHS-US):	H225	Highly flammable liquid and vapor
	H319	Causes serious eye irritation
	H336	May cause drowsiness or dizziness
Precautionary statements (GHS-US):	P210	Keep away from heat, hot surfaces, open flames, sparks. - No smoking
	P233	Keep container tightly closed
	P240	Ground/bond container and receiving equipment
	P241	Use explosion-proof electrical, lighting, ventilating equipment
	P242	Use only non-sparking tools
	P243	Take precautionary measures against static discharge
	P261	Avoid breathing mist, spray, vapors
	P264	Wash exposed skin thoroughly after handling
	P271	Use only outdoors or in a well-ventilated area
	P280	Wear eye protection, face protection, protective clothing, protective gloves
	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 and 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 and easy to do. Continue rinsing
	P312	Call a POISON CENTER/doctor if you feel unwell
	P337+P313	If eye irritation persists: Get medical advice/attention
	P370+P378	In case of fire: Use dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2) for extinction
	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
	P501	Dispose of contents/container to comply with local, state and federal regulations

2.3 Other Hazards

Other hazards not contributing to the Classification: None

2.4 Unknown acute toxicity (GHS-US

No data available

SECTION 3: Composition / information on ingredients

3.1 Substance

Substance Mono-constituent

Name	Product identifier	%	GHS-US classification
Isopropyl Alcohol (2-Propanol) (Main constituent)	(CAS No) 67-63-0	100%	Flammable Liq. 2, H225 Eye Irritant 2A, H379 STOT SE 3, H336

3.2 Mixture

Not applicable

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aid measures general: Check the vital functions. Unconscious: maintain adequate airway and respiration. **Respiratory arrest**: artificial respiration or oxygen. **Cardiac arrest**: perform resuscitation. Victim conscious with labored breathing: half-seated. Victim in shock: on his back with legs slightly raised. **Vomiting**: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up).Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain .Depending on the victim's condition: doctor / hospital. Never give alcohol to drink.

First-aid measures after inhalation: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service

First-aid measures after skin contact: Rinse with water. Soap may be used. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists

First-aid measures after eye contact: Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists

First-aid measures after ingestion: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Give activated charcoal. Call Poison Information Centre (www.big.be/antigif.htm).Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Doctor: gastric lavage.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation:	EXPOSURE TO HIGH CONCENTRATIONS: Coughing. Dry/sore throat. Central nervous systemdepression. Dizziness. Headache. Narcosis.
Symptoms/injuries after skin contact:	Dry skin.
Symptoms/injuries after eye contact:	Irritation of the eye tissue.
Symptoms/injuries after ingestion:	AFTER ABSORPTION OF HIGH QUANTITIES: Central nervous system depression. Headache. Dilation of the blood vessels. Low arterial pressure. Nausea. Vomiting. Abdominal pain. Disturbed motor response. Disturbances of consciousness. FOLLOWING SYMPTOMS MAY APPEAR LATER: Body temperature fall. Slowing respiration.
Chronic Symptoms:	ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Red skin. Dry skin. Itching. Cracking of the skin. Skin rash / inflammation. Impaired memory

SECTION 5: Firefighting Measures

5.1 Extinguishing media

Suitable extinguishing media:	Water spray. Polyvalent foam. Alcohol-resistant foam. BC powder. Carbon dioxide
Unsuitable extinguishing media:	Solid water jet ineffective as extinguishing medium

5.2 Special hazards arising from the substance or mixture

Fire hazard:	DIRECT FIRE HAZARD. Highly flammable. Gas/vapor flammable with air within explosion limits. INDIRECT FIRE HAZARD. May be ignited by sparks. Gas / vapor spreads at floor level; ignition hazard
Explosion hazard:	DIRECT EXPLOSION HAZARD. Gas/vapor explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD. may be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard".
Reactivity:	Upon combustion: CO and CO2 are formed. Violent to explosive reaction with (strong) oxidizers. Prolonged storage/in large quantities: may form peroxides.

5.3 Advice for firefighters

Firefighting instructions:	Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat
Protection during firefighting:	Heat/fire exposure: compressed air/oxygen apparatus..

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Protective equipment:	Gloves. Protective goggles. Protective clothing. Large spills/in enclosed spaces: compressed air apparatus.
Emergency procedures:	Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosion proof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes.

6.1.2 For emergency responders

Protective equipment:	Equip cleanup crew with proper protection. Do not breathe gas, fumes, vapor or spray.
Emergency procedures:	Stop leak if safe to do so. Ventilate area. If a major spill occurs, all personnel should be immediately evacuated and the area ventilated.

6.2 Environmental Precautions

Prevent spreading in sewers

6.3 Methods and material for containment and cleaning up

For containment:	Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapor with water curtain. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.
Methods for cleaning up:	Take up liquid spill into absorbent material, e.g.: dry sand/earth/vermiculite or powdered limestone. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling

6.4 Reference to other sections

No additional information available

SECTION 7: Handling and Storage

7.1 Precautions for safe handling

Precautions for safe handling:	Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly clean / dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Use spark /explosion proof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames / heat. Keep away from ignition Sources / sparks. Observe normal hygiene standards. Keep container tightly closed. Measure the concentration in the air regularly. Work under local exhaust / ventilation .
Hygiene measures:	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2 Conditions for safe storage

Incompatible products:	Ammonia. Strong acids. Strong oxidizers.
Incompatible products:	Direct sunlight. Heat sources. Sources of ignition.
Heat and ignition sources:	KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Prohibitions on mixed storage:	KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. (strong) bases. Amines, halogens.
Storage area:	Store in a cool area. Store in a dry area. Ventilation at floor level. Fireproof storeroom. Provide for an automatic sprinkler system. Provide for a tub to collect spills. Provide the tank with earthing. May be stored under nitrogen. Meet the legal requirements.
Special rules on packaging:	SPECIAL REQUIREMENTS: closing. with pressure relief valve. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packaging in solid containers.
Packaging materials:	SUITABLE MATERIAL: stainless steel. monel steel. carbon steel. copper. nickel. bronze. glass. Teflon. polyethylene. polypropylene. zinc. MATERIAL TO AVOID: steel with rubber inner lining, aluminum.

7.3 Specific end use(s)

No additional information available

SECTION 8: Exposure controls / personal protection

8.1 Control Parameters

Isopropyl Alcohol (2-Propanol) (67-63-0)		
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA ACGIH	ACGIH STEL (ppm)	200 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	980 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	400 ppm

8.2 Exposure Controls

Appropriate engineering controls:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.
Materials for protective clothing:	GIVE EXCELLENT RESISTANCE: butyl rubber. nitrile rubber. viton. polyethylene/ethylenevinylalcohol. GIVE GOOD RESISTANCE: neoprene. GIVE LESS RESISTANCE: PVC. neoprene/natural rubber. GIVE POOR RESISTANCE: natural rubber. polyethylene. PVA.
Hand protection:	Gloves.
Eye protection:	Safety glasses.
Skin and body protection:	Protective clothing.
Respiratory protection:	Wear gas mask with filter type A if conc. in air > exposure limit.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Appearance:	Liquid.
Molecular mass:	60.10 g/mol
Color:	Colorless.
Odor:	Alcohol odor. Stuffy odor. Mild odor.
Odor threshold:	3 - 610 ppm 8 - 1499 mg/m³
Ph:	No data available
Relative evaporation rate (butylacette = 1):	2.3
Relative evaporation rate (ether – 1):	21
Melting point:	-88 °C
Freezing point:	No data available
Flash point:	82 °C
Critical temperature:	12 °C
Self- ignition temperature:	235 °C
Decomposition temperature:	399 °C

Flammability (solid, gas):	No data available
Vapor pressure:	No data available
Vapor pressure at 50˚C:	229 hPa
Critical pressure:	47600 hPa
Relative vapor density at 20˚C:	2.1
Relative density:	0.79
Relative density of saturated gas / air mixture:	1.05
Density:	785 kg/m³
Solubility:	Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in oils/fats. Soluble in chloroform. Water: Complete Ethanol: Complete Ether: Complete Acetone: soluble
Log Pow	0.05 (Experimental value)
Log Kow:	No data available
Viscosity, kinematic:	2.5316 mm²/s (25 °C)
Viscosity, dynamic:	0.0020 Pas (25 °C)
Explosive properties:	No data available
Oxidizing properties:	No data available
Explosive limits:	2 - 13 vol % 50 - 335 g/m³

9.2 Other Information

Minimum ignition energy:	0.65 mJ
Specific conductivity:	5.8 µS/m
Saturation concentration:	106 g/m³
VOC content:	100 %
Other properties:	Gas/vapor heavier than air at 20°C. Clear. Volatile.

SECTION 10: Stability and reactivity

10.1 Reactivity

Upon combustion: CO and CO2 are formed. Violent to explosive reaction with (strong) oxidizers. Prolonged storage/in large quantities: may form peroxides.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

May react violently with oxidants.

10.4 Conditions to avoid

Direct sunlight. High temperature. Incompatible materials. Open flame. Sparks.

10.5 Incompatible materials

Ammonia. Strong acids. Strong oxidizers.

10.6 Hazardous decomposition products

Carbon dioxide. Carbon monoxide.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity Not classified

Isopropyl Alcohol (2-Propanol) (\f)67-63-0	
LD50 oral rat	5045 mg/kg (5840 mg/kg bodyweight; Rat; Rat; Experimental value,5840 mg/kg bodyweight; Rat; Rat; Experimental value)
LD50 dermal rabbit	12870 mg/kg (16.4; Rabbit; Rabbit; Experimental value,16.4; Rabbit; Rabbit; Experimental Value)
LC50 inhalation rat (mg/l)	73 mg/l/4h (Rat)

Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Causes serious eye irritation.
Respiratory or skin sensitization: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified

Isopropyl Alcohol (2-Propanol) (67-63-0)	
IARC group	3 - Not classifiable

Reproductive toxicity: Not classified
Specific target organ toxicity (single exposure): May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure): Not classified
Aspiration hazard: Not classified
Symptoms/injuries after inhalation: EXPOSURE TO HIGH CONCENTRATIONS: Coughing. Dry/sore throat. nervous system depression. Dizziness. Headache. Narcosis.
Symptoms/injuries after skin contact: Dry skin.
Symptoms/injuries after eye contact: Irritation of the eye tissue.
Symptoms/injuries after ingestion: AFTER ABSORPTION OF HIGH QUANTITIES: Central nervous system depression. Headache. Dilation of the blood vessels. Low arterial pressure. Nausea. Vomiting. Abdominal pain. Disturbed motor response. Disturbances of consciousness. FOLLOWING SYMPTOMS MAY APPEAR LATER: Body temperature fall. Slowing respiration.
Chronic symptoms: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Red skin. Dry skin. Itching. Cracking of the skin. Skin rash/inflammation. Impaired memory

SECTION 12: Ecological Information

12.1 Toxicity

Ecology – general: Classification concerning the environment: not applicable
Ecology – air: TA-Luft Klasse 5.2.5.
Ecology – water: invertebrates (Daphnia) (EC50 (48h) > 1000 mg./l. Not harmful to algae (EC50 (72h) > 1000 mg/l Inhibition of activated sludge

Isopropyl Alcohol (2-Propanol) (67-63-0)	
LC50 fishes 1	4200 mg/l (96 h; Rasbora heteromorpha; Flow-through system)
EC50 Daphnia 1	> 10000 mg/l (48 h; Daphnia magna)
LC50 fish 2	9640 mg/l (96 h; Pimephales promelas; Lethal)
EC50 Daphnia 2	13299 mg/l (48 h; Daphnia magna)
Threshold limit algae 1	> 1000 mg/l (72 h; Scenedesmus subspicatus; Growth rate)
Threshold limit algae 2	1800 mg/l (72 h; Algae; Cell numbers)

12.2 Persistence and degradability

Isopropyl Alcohol (2-Propanol) (67-63-0)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	1.19 g O^2/g substance
Chemical oxygen demand (COD)	2.23 g O^2/g substance
ThOD	2.40 g O^2/g substance
BOD (% of ThOD)	0.49 % ThOD

12.3 Bioaccumulative potential

Isopropyl Alcohol (2-Propanol) (67-63-0)	
Log Pow	0.05 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4 Mobility in soil

Isopropyl Alcohol (2-Propanol) (67-63-0)	
Surface tension	0.021 N/m (25 °C)

12.5 Other adverse effects

No additional information available

SECTION 13: Disposal Considerations

13.1 Waste treatment methods

Waste disposal recommendations:	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. Obtain the consent of pollution control authorities before discharging to wastewater
Additional information:	LWCA (the Netherlands): KGA category 03. Hazardous waste according to Directive 2008/98/EC

SECTION 14: Transport information

In accordance with DOT

Transport document description:	UN1219 Isopropyl alcohol, 3, II
UN-No.(DOT):	1219
DOT NA no.:	UN1219
DOT Proper Shipping Name:	Isopropyl alcohol
Department of Transportation (DOT) Hazard Classes:	3 - Class 3 – Flammable and combustible liquid 49 CFR 173 120
Hazard labels (DOT):	3 - Flammable liquids

Packing Group:	II – Medium Danger
DOT Special Provisions (49 CFR 172.102):	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. T4 - 2.65 178.274(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.
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.

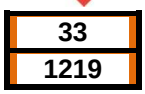
Additional information:

Other information	No supplementary information available
State during transport (ADR-RID):	As liquid

ADR

Transport document description:	UN 1219 Isopropanol (isopropyl alcohol), 3, II, (D/E)
Packing group (ADR):	II
Class (ADR):	3 - Flammable liquids
Hazard identification number (Kemler No.):	33
Classification code (ADR):	F1
Danger labels (ADR):	3 – Flammable liquids

Orange plates:



Tunnel restriction code: D/E

Transport by sea

UN-No. (IMDG):	1219
Class (IMDG):	3 - Flammable liquids
EmS-No. (1):	F-E
EmS-No. (2):	S-D

Air transport

UN-No.(IATA):	1219
Class (IATA):	3 - Flammable Liquids
Packing group (IATA):	II - Medium Danger

SECTION 15: Regulatory information

15.1 U.S. Federal Regulations

Isopropyl Alcohol (2-Propanol) (67-63-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on SARA Section 313 (Specific toxic chemical listings)

15.2 Regulations Canada

Isopropyl Alcohol (2-Propanol) (67-63-0)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

EU Regulations

No regulations available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2 H225
Eye Irrit. 2 H319
STOT SE 3 H336

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

F; R11
Xi; R36
R67

Full text of R-phrases: see section 16

15.2.2 National regulations

No additional information available

15.3 State regulations

No additional information available

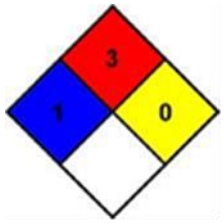
SECTION 16: Other information

Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Flam. Liq. 2	Flammable liquids, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapor
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness

NFPA health hazard: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given

NFPA fire hazard: 3 - Liquids and solids that can be ignited under almost all ambient Conditions.

NFPA reactivity: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health:	1 Slight Hazard – irritation or minor reversible
Flammability:	3
Physical:	0
Personal Protection:	H

ORCA Composites believes the law requires us to inform you that detectable amounts of any of the listed chemicals might be present in ORCA products. Based on a review of the list, ORCA products, like all synthetic and naturally occurring chemical substances, may conceivably contain trace contaminants of some of the listed substances. While not necessarily added to our products as ingredients, some of the listed chemicals may be present in the raw materials as received from suppliers over which we have no control.

Preparation Date: 1-3-2019
Prepared by: Kevin Aber
Comments: This Safety Data Sheet was prepared using information provided by Orca Composites

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and ORCA Composites assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.