

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Date of issue: 17/12/2010 Revision date: 03/05/2017 Supersedes: 28/09/2012 Version: 3.0 CLM-4714

SECTION 1: Identification of the substance/mixture and of the company/undertaking **Product identifier** 1.1. : Substance Product form : ISOPROPANOL (2-13C, 99%) Substance name 603-117-00-0 (Unlabeled) EC Index No EC No : 200-661-7 (Unlabeled) CAS No : 21388-65-8 : CLM-4714 Product code : (CH3)2*CHOH Formula Synonyms : sec-Propyl alcohol / Isopropyl alcohol / 2-Propanol 1.2. Relevant identified uses of the substance or mixture and uses advised against 1.2.1. **Relevant identified uses** : Professional use Main use category Industrial/Professional use spec : For professional use only 1.2.2. Uses advised against No additional information available Details of the supplier of the safety data sheet 1.3. Cambridge Isotope Laboratories, Inc. 50 Frontage Road Andover, MA 01810 USA USA: 1-800-322-1174 Int: 1-978-749-8000 cilsales@isotope.com www.isotope.com **Emergency telephone number** Emergency numbers: Chemtrec: 1-800-424-9300 (24 hours) International: 1-703-741-5970 (24 hours) **SECTION 2: Hazards identification Classification of the substance or mixture** 2.1. Classification according to Regulation (EC) No. 1272/2008 [CLP] Flam. Liq. 2 H225 Eye Irrit. 2 H319

STOT SE 3 H336 Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R11 Xi; R36 R67 Full text of R-phrases: see section 16

GHS-US classification

Flam. Liq. 2 H225 Eye Irrit. 2 H319 STOT SE 3 H336 Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations



No additional information quaita

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Name	Product identifier	%	Classification according to Directive 67/548/EEC
ISOPROPANOL (2-13C, 99%)	(CAS No) 21388-65-8 (EC No) 200-661-7 (Unlabeled) (EC Index No) 603-117-00-0 (Unlabeled)	100	F; R11 Xi; R36 R67
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ISOPROPANOL (2-13C, 99%)	(CAS No) 21388-65-8 (EC No) 200-661-7 (Unlabeled) (EC Index No) 603-117-00-0 (Unlabeled)	100	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

Full text of R- and H-statements: see section 16

Name	Product identifier	%	GHS-US classification
ISOPROPANOL (2-13C, 99%) (Main constituent)	(CAS No) 21388-65-8	100	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

Full text of H-statements: see section 16

3.2. Mixtures	
Not applicable	
SECTION 4: First aid measures	
4.1. Description of first aid measures	
First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible). Evacuate danger area.
First-aid measures after inhalation	When symptoms occur: go into open air and ventilate suspected area. If not breathing, give artificial respiration. Get medical advice/attention. Remove victim to fresh air and keep at rest ir a position comfortable for breathing.
First-aid measures after skin contact	: Wash with plenty of soap and water. Get immediate medical advice/attention. Specific measures (see Hazard pictograms (CLP) on this label). Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention.
4.2. Most important symptoms and effe	cts, both acute and delayed
Symptoms/injuries	: May cause damage to organs (kidneys, Eyes, Skin) (in contact with skin, if inhaled, if swallowed).
Symptoms/injuries after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/injuries after skin contact	: May be harmful in contact with skin. May cause skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation.
Symptoms/injuries after ingestion	: May be harmful if swallowed.
4.3. Indication of any immediate medic	al attention and special treatment needed
No additional information available	
SECTION 5: Fire-fighting measures	
5.1. Extinguishing media	
Suitable extinguishing modia	Water aprovider abamical powder, alaphal registrant form, aprhan diavida (CO2)

Suitable extinguish	ing media	: Water spray. dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2).
5.2. Special	hazards arising from the sub	stance or mixture
Fire hazard		: Highly flammable liquid and vapour.
Explosion hazard		: May form flammable/explosive vapour-air mixture.
5.3. Advice f	or firefighters	
Firefighting instruct	tions	: Fight fire with normal precautions from a reasonable distance. Wear a self contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during fi	refighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Wear recommended personal protective equipment.

SECTIO	N 6: Accidental release meas	ures
6.1. F	Personal precautions, protective equ	ipment and emergency procedures
General me	easures	: Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

6.1.1. For non-emergency personnel		
Emergency procedures	: Avoid breathing vapours, mist, gas. Avoid dust formation. Use personal protective equipment as required. Ensure adequate air ventilation. Evacuate danger area.	
6.1.2. For emergency responders		
Protective equipment	: Avoid breathing Dust, vapours.	
6.2. Environmental precautions		
Prevent entry to sewers and public waters. Do	not allow to enter drains or water courses. Avoid release to the environment.	
6.3. Methods and material for contain	ment and cleaning up	
For containment	: Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. This material and its container must be disposed of in a safe way, and as per local legislation.	
6.4. Reference to other sections		
No additional information available		
SECTION 7: Handling and storage		
7.1. Precautions for safe handling		
Additional hazards when processed	: Handle empty containers with care because residual vapours are flammable.	
Precautions for safe handling	 Provide adequate ventilation to minimize dust and/or vapour concentrations. No open flames. No smoking. Use only non-sparking tools. Do not get in eyes, on skin, or on clothing. Avoid breathing dust, mist, spray, vapours. 	
Hygiene measures	: Wash hands, forearms and face thoroughly after handling. Do not eat, drink or smoke when using this product.	
7.2. Conditions for safe storage, including any incompatibilities		
Technical measures	: Store in a well-ventilated place. Keep container tightly closed. Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment.	
Storage conditions	: Store at room temperature away from light and moisture.	

Storage conditions Incompatible materials

: Heat sources.

Specific end use(s) 7.3.

No additional information available

.1. Control parameters		
ISOPROPANOL (2-13C, 99%)) (21388-65-8)	
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	200.00000000 ppm Remarks: Central Nervous System impairment,Upper Respiratory Tract irritation ,Eye irritation, Substances for which there is a Biological Exposure Index or Indices see BEI® section), Not classifiable as a human carcinogen; USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	400 ppm Remarks: Central Nervous System impairment,Upper Respiratory Tract irritation ,Eye irritation, Substances for which there is a Biological Exposure Index or Indices see BEI® section), Not classifiable as a human carcinogen; USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Component: 2-Propanol; CAS-No- 67-63-0; Parameters- Acetone; Value- 40.0000 mg/l; Biological specimen- Urine; Basis- ACGIH-Biological; Remarks: End of shift at end of workweek; Exposure Indices (BEI)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	980 USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (TWA) (ppm)	400 ppm USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	1225 mg/m ³ USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (ppm)	500 ppm USA. NIOSH Recommended Exposure Limits
USA OSHA	OSHA PEL (TWA) (mg/m³)	980 mg/m ³ The value in mg/m3 is approximate. USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
USA OSHA	OSHA PEL (TWA) (ppm)	400 USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

ISOPROPANOL (2-13C, 99%) (21388-65-8)		
USA OSHA	OSHA PEL (STEL) (mg/m ³)	1225 mg/m ³ California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (STEL) (ppm)	500 ppm California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (Ceiling) (mg/m ³)	980 mg/m ³ California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (Ceiling) (ppm)	400 ppm California permissible exposure limits for chemical contaminants (Title 8, Article 107)

8.2. Exposure controls	
Appropriate engineering controls	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
Personal protective equipment	: Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.
Materials for protective clothing	: Wear suitable protective clothing and gloves.
Hand protection	: Wear suitable protective clothing and gloves.
Eye protection	: Wear eye protection. Chemical goggles or face shield with safety glasses.
Skin and body protection	: Wear suitable protective clothing, gloves and eye/face protection.
Respiratory protection	 In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.
Environmental exposure controls	: Avoid release to the environment.
Other information	: Do not eat, drink or smoke when using this product.
SECTION 9: Physical and chemica	I properties
9.1. Information on basic physical an	d chemical properties
Physical state	: Liquid
Appearance	: Liquid.
Molecular mass	: 61.09 g/mol (Labeled)
Colour	: Colourless.
Odour	: Alcohol-like.
Odour threshold	: No data available
рН	: No data available
Relative evaporation rate (butylacetate=1)	: 3
Melting point	: -89.5 °C (-129.1 °F)
Freezing point	: No data available

Flash point	: 12 °C (53.6 °F) - closed cup
Auto-ignition temperature	: 425 (797.0 °F)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapour
Vapour pressure	: 43.2 hPa (32.4 mmHg) at 20.0 °C (68.0 °F); 58.7 hPa (44.0 mmHg) at 25.0 °C (77.0 °F)
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.785 g/ml at 25 °C (77 °F)
Solubility	: Water: completely soluble
Log Pow	: 0.05
Log Kow	

Boiling point

: 82 °C (180 °F)

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

9.2. Other information		
lo additional information available		
SECTION 10: Stability and reactivity		
0.1. Reactivity		
lo additional information available		
10.2. Chemical stability		
Stable if stored under recommended conditions.		
10.3. Possibility of hazardous reactions		
Vapours may form explosive mixture with air.		
10.4. Conditions to avoid		
Open flame. Direct sunlight. Avoid Heat, Flames ar	nd Sparks.	
10.5. Incompatible materials		
Strong oxidizing agents. Acid anhydrides. Aluminiu	m. Halogenated compounds. Acids.	
10.6. Hazardous decomposition products		
Carbon oxides (CO, CO2). May release flammable	gases.	
SECTION 11: Toxicological informatio	n	
11.1. Information on toxicological effects		
Acute toxicity :	Not classified	
ISOPROPANOL (2-13C, 99%) (21388-65-8)		
LD50 oral rat	5045 mg/kg Remarks: Behavioral:Altered sleep time (including change in righting reflex). Behavioral:Somnolence (general	
LD50 dermal rat	12800 mg/kg - Rabbit	
LC50 inhalation rat (ppm)	16000 - 8 h	
ATE CLP (oral)	5045.000 mg/kg bodyweight	
ATE CLP (dermal)	12800.000 mg/kg bodyweight	
Skin corrosion/irritation :	Skin - Rabbit Result: Mild skin irritation	
Serious eye damage/irritation :	Eyes. rabbit. Irritating to eyes. 24 Hours	
Respiratory or skin sensitisation :	Not classified	
Germ cell mutagenicity :	Not classified	
Carcinogenicity :	This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.	
Reproductive toxicity :	Not classified	
STOT-single exposure :	Inhalation Oral - May cause drowsiness or dizziness.	
STOT-repeated exposure :	Not classified	
Aspiration hazard :	Not classified	
Potential adverse human health effects and symptoms	This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. Fatal in contact with skin. central nervous system. Prolonged or repeated exposure can cause: Nausea, Dizziness, Headache, Vomiting, Diarrhoea, Convulsions. Aspiration of this material may cause chemical pneumonia. Kidney - irregularities - Based on Human Evidence.	
Symptoms/injuries after inhalation :	May be harmful if inhaled. May cause respiratory irritation.	
Symptoms/injuries after skin contact :	May be harmful in contact with skin. May cause skin irritation.	
Symptoms/injuries after eye contact :	Causes serious eye irritation.	
Symptoms/injuries after ingestion :	May be harmful if swallowed.	

SECTION 12: Ecological information	
12.1. Toxicity	
ISOPROPANOL (2-13C, 99%) (21388-65-8)	
LC50 fish 1	9640 mg/l - Pimephales promelas (fathead minnow) - 96 h
EC50 Daphnia 1	5102 mg/l - Daphnia magna (Water flea) - 24 h
ErC50 (algae)	> 1000 mg/l - 24 h
ErC50 (other aquatic plants)	EC50 - > 2,000.00 mg/l - Desmodesmus subspicatus (green algae) - 72 h
Additional information	EC50 (Daphnia Magna) -invertebrates. : (Immobilization - 6,851 mg/l - 24 h)

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

12.2. Persistence and degradability	
No additional information available	
12.3. Bioaccumulative potential	
ISOPROPANOL (2-13C, 99%) (21388-65-8)	
Log Pow	0.05
12.4. Mobility in soil	
No additional information available	
12.5. Results of PBT and vPvB assessme	ent
No additional information available	
12.6. Other adverse effects	
No additional information available	
SECTION 13: Disposal consideration	ns
13.1. Waste treatment methods	
Regional legislation (waste)	: Waste materials should be disposed of under conditions which meet Federal, State, and Loca environmental control regulations.
Product/Packaging disposal recommendations:	: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a license professional waste disposal service to dispose of this material.
Ecology - waste materials	: Dispose of as unused product.
SECTION 14: Transport information	
In accordance with ADR / RID / IMDG / IATA / A	DN
14.1. UN number	
UN-No.(DOT)	: 1219
DOT NA no.	UN1219
14.2. UN proper shipping name	
Proper Shipping Name (DOT)	: Isopropyl alcohol
Class (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT)	: 3 - Flammable liquid
	FLAMMABLE LIQUID
Packing group (DOT)	: II - Medium Danger
DOT Special Provisions (49 CFR 172.102)	 IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composit (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 11 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
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
14.3. Additional information	
Emergency Response Guide (ERG) Number	: 129
Other information	: No supplementary information available.
Special transport precautions	: Not classified as dangerous in the meaning of transport regulations.
Overland transport	
Overland transport Packing group (ADR)	: II
	: II : 3 - Flammable liquid
Packing group (ADR)	
Packing group (ADR) Class (ADR)	: 3 - Flammable liquid

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Danger labels (ADR)	: 3 - Flammable liquids
	3
Orange plates	33 1219
Tunnel restriction code (ADR)	: D/E
Limited quantities (ADR)	11
Excepted quantities (ADR)	: E2
Transport by sea	
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.
MFAG-No	: 129
Air transport	
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
Civil Aeronautics Law	: Flammable liquids
14.4. Environmental hazards	
Other information	: No supplementary information available.
14.5. Special precautions for user	
Special transport precautions	: Not classified as dangerous in the meaning of transport regulations.

14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information	
15.1. US Federal regulations	
ISOPROPANOL (2-13C, 99%) (21388-65-8)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporing requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313

15.2. International regulations

CANADA ISOPROPANOL (2-13C, 99%) (21388-65-8) Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

15.3. US State regulations		
ISOPROPANOL (2-13C, 99%)(21388-65-8)		
U.S California - Proposition 65 - Carcinogens List	No	
U.S California - Proposition 65 - Developmental Toxicity	No	
U.S California - Proposition 65 - Reproductive Toxicity - Female	No	
U.S California - Proposition 65 - Reproductive Toxicity - Male	No	
State or local regulations	U.S Massachusetts - Right To Know List U.S New Jersey - Right to Know Hazardous Substance List U.S Pennsylvania - RTK (Right to Know) List	

SECTION 16: Other information

Other information

: This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of R-, H- and EUH-statements:

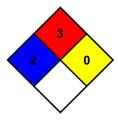
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness
R11	Highly flammable
R36	Irritating to eyes
R67	Vapours may cause drowsiness and dizziness
F	Highly flammable
Xi	Irritant

NFPA health hazard

NFPA fire hazard

: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

- : 3 Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.
- : 0 Material that in themselves are normally stable, even under fire conditions.



HMIS III Rating

NFPA reactivity

Health	: 2 Moderate Hazard - Temporary or minor injury may occur
Flammability	: 3 Serious Hazard
Physical	: 0 Minimal Hazard

CIL Multi-Solvent Mixture SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product