Safety Data Sheet

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1.1. Identification Product form : Substance Substance name : Stormsure Leak Detector CAS No : 67-63-0 Product code : LC15750 Formula : C3H8O Synonyms : 1-methylethanol / 1-methylethyl alcohol / 2-hydroxypropane / dimethyl carbinol / ethyl carbinol / hydroxypropane / IPA / i-propanol / isoethylcarbinol / propan-2-ol / sec-propanol BIG no : 10028 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 Stormsure Ltd Hall Farm, Lode Road, Bottisham Cambridge CB25 9DN United Kingdom Tel. +44(0) 33 33 44 15 00 Email. info@stormsure.com 1.4. Emergency telephone number Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887 2.1. Classification of the substance or mixture Classification (GHS-US) Flam. Liq. 2 H225 - Highly flammable liquid and vapor Eye Irrit. 2A H319 - Causes serious eye irritation STOT SE 3 H335 - May cause respiratory irritation Full text of H-phrases: see section 16 2.2. Label elements **GHS-US** labeling 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 H335 - May cause respiratory irritation 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, vapors, spray 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 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 or doctor/physician if you feel unwell P337+P313 - If eye irritation persists: Get medical advice/attention Stormsure Leak Detector Safety Data Sheet according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations 09/30/2015 EN (English US) 2/9 P370+P378 - In case of fire: Use dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2) to extinguish P403+P233 - Store in a well-ventilated place. Keep container tightly closed P405 - Store locked up

P501 - Dispose of contents/container to comply with local, state and federal regulations P235 - Keep cool

If inhaled: Remove person to fresh air and keep comfortable for breathing

2.3. Other hazards

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Other hazards not contributing to the classification : None. 2.4. Unknown acute toxicity (GHS US)

Not applicable

#### 3.1. Substance

Substance type : Mono-constituent Name Product identifier % Classification (GHS-US) IPA (Main constituent) (CAS No) 67-63-0 100 Flam. Liq. 2, H225 Eve Irrit. 2A, H319 STOT SE 3, H335 Full text of H-phrases: see section 16 3.2. Mixture Not applicable

#### 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 laboured 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) neutralising agents. Take victim to a doctor if irritation persists.

First-aid measures after eye contact : Rinse immediately with plenty of water. Do not apply neutralising 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 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 LARGE 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.

4.3. Indication of any immediate medical attention and special treatment needed

### No additional information available

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/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD. May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard

Explosion hazard : DIRECT EXPLOSION HAZARD. Gas/vapour 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) oxidisers. 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.

### 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. See "Material-Handling" to select protective clothing.

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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, vapour 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/vapour 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

#### 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.

Ignition sources/sparks. Observe normal hygiene standards. Reep container tightiy close

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, including any incompatibilities

Incompatible products : Ammonia. Strong acids. Strong oxidisers.

Incompatible materials : Direct sunlight. Heat sources. Sources of ignition. Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.

Heat-ignition : KEEP SUBSTANCE AWAY FROM: neat sources. Ignition sources.

Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidising 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 packagings 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.

aluminium.

#### 8.1. Control parameters

Stormsure Leak Detector (67-63-0) ACGIH ACGIH TWA (ppm) 200 ppm ACGIH ACGIH STEL (ppm) 200 ppm OSHA OSHA PEL (TWA) (mg/mÑ) 980 mg/mÑ 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 : 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.

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Physical state : Liquid Appearance : Liquid. Color : Colourless Odor : Alcohol odour Stuffy odour Mild odour Odour threshold : 3 - 610 ppm 8 - 1499 mg/mÑ pH : No data available Melting point : -88 °C Freezing point : No data available Boiling point : 82 °C Critical temperature : 235 °C Critical pressure : 47600 hPa Flash point : 12 °C Relative evaporation rate (butyl acetate=1): 2.3 Relative evaporation rate (ether=1):21 Flammability (solid, gas) : No data available Explosion limits : 2 - 13 vol % 50 - 335 g/mÑ Explosive properties : No data available Oxidising properties : No data available Vapour pressure : 44 hPa Vapour pressure at 50 °C : 229 hPa Relative density : 0.79 Relative vapor density at 20 °C : 2.1 Relative density of saturated gas/air mixture : 1.05 Specific gravity / density : 785 kg/mÑ Molecular mass : 60.10 g/mol Solubility : Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in oils/fats. Soluble in chloroform. Ethanol: Complete Ether: Complete Acetone: soluble Log Pow : 0.05 (Experimental value) Auto-ignition temperature : 399 °C Decomposition temperature : No data available Viscosity : No data available Viscosity, kinematic : 2.5316 mmÇ/s (25 °C) Viscosity, dynamic : 0.0020 Pa.s (25 °C) 9.2. Other information Minimum ignition energy : 0.65 mJ Specific conductivity : 5.8 µS/m Saturation concentration : 106 g/mÑ VOC content : 100 % Other properties : Gas/vapour heavier than air at 20°C. Clear. Volatile.

#### 10.1. Reactivity

Upon combustion: CO and CO2 are formed. Violent to explosive reaction with (strong) oxidisers. 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 oxidisers. 10.6. Hazardous decomposition products Carbon dioxide. Carbon monoxide.

### 11.1. Information on toxicological effects

Likely routes of exposure : Inhalation; Skin and eye contact Acute toxicity : Not classified Stormsure Leak Detector (67-63-0) LD50 oral rat 5045 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 5840 mg/kg bodyweight; Rat) LD50 dermal rabbit 12870 mg/kg (Rabbit; Experimental value; Equivalent or similar to OECD 402; 16.4; Rabbit) LC50 inhalation rat (mg/l) 73 mg/l/4h (Rat) ATE US (oral) 5045.000 mg/kg body weight

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ATE US (dermal) 12870.000 mg/kg body weight ATE US (vapours) 73.000 mg/l/4h ATE US (dust, mist) 73.000 mg/l/4h Skin corrosion/irritation : Not classified Serious eye damage/irritation : Causes serious eye irritation. Respiratory or skin sensitisation : Not classified Germ cell mutagenicity : Not classified Carcinogenicity : Not classified Stormsure Leak Detector (67-63-0) IARC group 3 - Not classifiable Reproductive toxicity : Not classified Specific target organ toxicity (single exposure) : May cause respiratory irritation. Specific target organ toxicity (repeated exposure) : Not classified Aspiration hazard : Not classified Symptoms/injuries after inhalation : EXPOSURE TO HIGH CONCENTRATIONS: Coughing. Dry/sore throat. Central 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 LARGE 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. 12.1. Toxicity Ecology - general : Classification concerning the environment: not applicable. Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). Not included in the list of substances which may contribute to the greenhouse effect (Regulation (EC) No 842/2006). TA-Luft Klasse 5.2.5. Ecology - water : Ground water pollutant. Not harmful to fishes (LC50(96h) >1000 mg/l). Not harmful to invertebrates (Daphnia) (EC50 (48h) > 1000 mg/l). Not harmful to algae (EC50 (72h) >1000 mg/l). Inhibition of activated sludge. Stormsure Leak Detector (67-63-0) LC50 fish 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 Stormsure Leak Detector (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 OI/g substance Chemical oxygen demand (COD) 2.23 g OI/g substance ThOD 2.40 g OI/g substance BOD (% of ThOD) 0.49 % ThOD 12.3. Bioaccumulative potential Stormsure Leak Detector (67-63-0) Log Pow 0.05 (Experimental value) Bioaccumulative potential Low potential for bioaccumulation (Log Kow < 4). 12.4. Mobility in soil Stormsure Leak Detector (67-63-0) Surface tension 0.021 N/m (25 °C) 12.5. Other adverse effects No additional information available

### 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 authorised waste incinerator for solvents with energy recovery. Do not discharge into surface water. Obtain the

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

Department of Transportation (DOT) In accordance with DOT Transport document description : UN1219 Isopropyl alcohol, 3, II UN-No.(DOT) : UN1219 Proper Shipping Name (DOT) : Isopropyl alcohol Transport hazard class(es) (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120 Hazard labels (DOT) : 3 - Flammable liquid Packing group (DOT) : II - Medium Danger DOT Packaging Non Bulk (49 CFR 173.xxx) : 202 DOT Packaging Bulk (49 CFR 173.xxx) : 242 DOT Special Provisions (49 CFR 172.102) : IB2 - Authorised IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapour 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 authorised. 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 Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) :5 L DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) · 60 I 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 Other information : No supplementary information available. TDG No additional information available 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

15.1. US Federal regulations

Packing group (IATA) : II - Medium Danger

Stormsure Leak Detector (67-63-0) Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313 All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorisation Act (SARA) of 1986 and 40 CFR Part 372. Stormsure Leak Detector CAS No 67-63-0 100% 15.2. International regulations Class D Division 2 Subdivision B - Toxic material causing other toxic effects **EU-Regulations** No additional information available National regulations No additional information available 15.3. US State regulations California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm.

Revision date : 09/29/2015 Full text of H-phrases: see section 16:

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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

H225 Highly flammable liquid and vapor

H319 Causes serious eye irritation

H335 May cause respiratory irritation

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 injury possible

Flammability : 3 Serious Hazard - Materials capable of ignition under almost all normal temperature

conditions. Includes flammable liquids with flash points below 73 F and boiling points above

100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT

react with water, polymerise, decompose, condense, or self-react. Non-Explosives.

Personal Protection : H

H - Splash goggles, Gloves, Synthetic apron, Vapour respirator

SDS US (GHS HazCom 2012) Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and Stormsure Ltd Inc assumes no liability resulting from the use of this

SDS. The user must determine suitability of this information for his application.