RLS CHEMICALS | 149 ELSBURG ROAD - GERMISTON- JHB| +27 11 913 8060 | INFO@REFLECTASGT.CO.ZA | WWW.LABEQUIPSUPPLY.CO.ZA

Material Safety Data Sheets (MSDS)

Ethanol 99.9%

Identification of Product

Chemical Code: CHE-13

Chemical Name: Ethanol 99.9%

Chemical Grade: AR

Chemical Formula: C_2H_6O

Chemical Weight: 46,07 g/mol

CAS No: 64-17-5

Chemical Synonyms: Ethyl alcohol

Hazards Identification

REACH No: 01-2119457610-43-XXXX

Signal Word: Danger

Supplemental Hazard Information:

Additional Hazard Information: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Hazards statements

H225 - Highly flammable liquid and vapour.
H319 - Causes serious eye irritation.

Precautionary statements

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 - Wear eye protection/ face protection.
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.
P403 + P235 - Store in a well-ventilated place. Keep cool.

Composition of Chemical

Chemical Formula: C_2H_6O

EC No 1272/2008: 01-2119457610-43-XXXX

First Aid Measures

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance.

If: Inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

If: Skin Contact: Wash off with soap and plenty of water. Consult a physician.

If: Eye Contac: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If: Swallowed: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Important Symptoms: The most important known symptoms and effects are described in the labeling section.

Immediate Medical Attention: No Data Available

Firefighting Measures

Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Hazards Arising: Carbon oxides.

Advice for Firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Info for Firefighting: Use water spray to cool unopened containers.

Accidental Release Measures

Personal Precautions: Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive

concentrations. Vapours can accumulate in low areas.

Enviromental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Method for Containment: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

Handling and Storage

Personal Precautions: Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge.

Enviromental Precautions: Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Hygroscopic. Storage class (TRGS 510): Flammable liquids.

Exposure Controls | Personal Protection

Derived No Effect Level (DNEL)

Workers | Application Area | Exposure Routes | Health Effect | Value

Workers -- Inhalation -- Long-term systemic effects -- 950 mg/m3
Workers -- Skin contact -- Long-term systemic effects -- 343mg/kg BW/d
Workers --- Ingestion -- Long-term systemic effects -- 343mg/kg BW/d
Workers -- Inhalation -- Acute local effects -- 1900 mg/m3

Consumers | Application Area | Exposure Routes | Health Effect | Value

No Data Available

Predicted No Effect Concentration (PNEC)

Soil -- 0,63 mg/kg
Marine water -- 0,79 mg/l
Fresh water -- 0,96 mg/l
Fresh water sediment -- 3,6 mg/l
Sewage treatment plant -- 580 mg/l

Engineering Controls: No Data Available

Eye/Face Protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin Protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.
Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: butyl-rubber
Minimum layer thickness: 0,3 mm
Break through time: 480 min
Material tested: Butoject® (KCL 897 / Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0,2 mm
Break through time: 38 min
Material tested: Dermatril® P (KCL 743 / Size M)

data source: KCL GmbH, D-36124 test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: impervious clothing, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Physical and Chemical Properties

Appearance: Clear, Colourless, mobile liquid

Odour: Pleasant odour

Odour Threshold: No Data Available

pH: No Data Available

Melting Point: -143,99 °C

Boiling Point: 78,0 - 80,0 °C

Flash Point: 14,0 °C - Closed Cup

Evaporation: No Data Available

Flammability: No Data Available

Upper/Lower Flammability or Explosive Limits: Upper explosion limit: 19 %(V) Lower explosion limit: 3,3 %(V)

Vapour pressure: 59,5 hPa at 20,0 °C

Vapour density: No Data Available

Relative density: 0,7974 g/cm3

Water solubility: Completely Soluble

Partition Coefficien: Log Pow: -0,349 at 24 °C

Auto-ignition Temperature: 363,0 °C

Decomposition Temperature: No Data Available

Viscosity: No Data Available

Explosive properties: No Data Available

Oxidizing properties: No Data Available

Other Safety Info: No Data Available

Stability and Reactivity

Reactivity: No Data Available

Chemical Stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: No Data Available

Conditions to Avoid: Heat, flames and sparks.

Incompatible Materials: Alkali metals, Oxidizing agents, Peroxides.

Hazardous Decomposition Products: Other decomposition products - No Data Available

Toxicological Information

Acute Toxicity: LD50 Oral - Rat - 10.470 mg/kg
LC50 Inhalation - Rat - 4 h - 30.000 mg/l
LD50 Dermal - Rabbit - 15.800 mg/kg

Skin Corrosion/Irritation: Skin - Rabbit
Result: No skin irritation - 24 h (OECD Test Guideline 404) and Eyes - Rabbit
Result: Moderate eye irritation (OECD Test Guideline 405)

Serious Eye damage | Eye Irritation: No Data Available

Cell Mutagenicity: No Data Available

Carcinogenicity: Carcinogenicity - Mouse - Oral
Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Liver:Tumors. Blood:Lymphomas including Hodgkin's disease.
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.

Reproductive toxicity: Reproductive toxicity - Human - female - Oral
Effects on Newborn: Apgar score (human only). Effects on Newborn: Other neonatal measures or effects.
Effects on Newborn: Drug dependence.

Specific Target Organ Toxicity - Single Exposure: No Data Available

Specific Target Organ Toxicity - Repeated Exposure: No Data Available

Aspiration Hazard: No Data Available

Ecological Information

Ecological Toxicity: Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 14.200 mg/l - 96 h
Toxicity to daphnia and other aquatic LC50 - Ceriodaphnia dubia (water flea) - 5.012 mg/l - 48 h invertebrates
NOEC - Daphnia magna (Water flea) - 9,6 mg/l - 9 d
Toxicity to algae EC50 - Chlorella vulgaris (Fresh water algae) - 275 mg/l - 72 h (OECD Test Guideline 201)

Ecological Persistence and degradability: Biodegradability Result: 95 % - Readily biodegradable.

Bioaccumulative Potential: Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

Mobility in Soil: No Data Available

Results of PBT and vPvB Assessment: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Other Adverse Effect: No Data Available

Disposal Considerations

Waste Treatment Methods: Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging
Dispose of as unused product.

Transport Information

UN Number: ADR/RID: 1170
IMDG: 1170
IATA: 1170

UN Shipping Hazard: ADR/RID: ETHANOL
IMDG: ETHANOL
IATA: Ethanol

Transport Hazard Class: ADR/RID: 3
IMDG: 3
IATA: 3

Packaging Group: ADR/RID: II
IMDG: II
IATA: II

Enviromental Hazards: ADR/RID: no
IMDG Marine pollutant: no
IATA: no

Special Precautions: No Data Available

Regulatory Information

Safety, Health and environmental regulations: This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

Chemical Safety Assessment: A Chemical Safety Assessment has been carried out for this substance.

Additional Info: RTECS: KQ6300000
Central nervous system depression, narcosis, Damage to the heart., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.