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Material Safety Data Sheets (MSDS)

Formic Acid 85%

Identification of Product

Chemical Code: CHE-F3

Chemical Name: Formic Acid 85%

Chemical Grade: AR

Chemical Formula: CH_2O_2

Chemical Weight: 46,03 g/mol

CAS No: 64-18-6

Chemical Synonyms:

Hazards Identification

REACH No: No Data Available

Signal Word: Danger

Supplemental Hazard Information: EUH071 - Corrosive to the respiratory tract.

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

H226 - Flammable liquid and vapour.
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H331 - Toxic if inhaled.

Precautionary statements

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

Composition of Chemical

Chemical Formula: CH_2O_2

EC No 1272/2008: No Data Available

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: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. 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: No Data Available

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: Wear respiratory protection. 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. Discharge into the environment must be avoided.

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.

Exposure Controls | Personal Protection

Derived No Effect Level (DNEL)

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

No Data Available

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

No Data Available

Predicted No Effect Concentration (PNEC)

No Data Available

Engineering Controls: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Eye/Face Protection: Tightly fitting safety goggles. Face shield (8-inch minimum). 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: Nature latex/chloroprene
Minimum layer thickness: 0,6 mm
Break through time: 480 min
Material tested: Lapren® (KCL 706 / 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: Complete suit protecting against chemicals, 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: Colourless liquid

Odour: Pungent odour

Odour Threshold: No Data Available

pH: 2,2 at 2,2 g/l at 20 °C

Melting Point: No Data Available

Boiling Point: 100 °C

Flash Point: 48 °C

Evaporation: No Data Available

Flammability: No Data Available

Upper/Lower Flammability or Explosive Limits: Upper explosion limit: 57 %(V) Lower explosion limit: 18 %(V)

Vapour pressure: No Data Available

Vapour density: No Data Available

Relative density: No Data Available

Water solubility: No Data Available

Partition Coefficien: Log Pow: -0,54

Auto-ignition Temperature: No Data Available

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: Strong oxidizing agents, Strong bases, Powdered metals.

Hazardous Decomposition Products: Hazardous decomposition products formed under fire conditions. - Carbon oxides.
Other decomposition products - No Data Available

Toxicological Information

Acute Toxicity: LD50 Oral - Rat - 730 mg/kg (Formic acid) (OECD Test Guideline 401)
LC50 Inhalation - Rat - 4 h - 7,4 mg/l (Formic acid)

Skin Corrosion/Irritation: Skin - Rabbit (Formic acid)
Result: Severe skin irritation (Draize Test)

Serious Eye damage | Eye Irritation: Eyes - Rabbit (Formic acid)
Result: Severe eye irritation.

Cell Mutagenicity: No Data Available (Formic acid)

Carcinogenicity: 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: No Data Available (Formic acid)

Specific Target Organ Toxicity - Single Exposure: No Data Available (Formic acid)

Specific Target Organ Toxicity - Repeated Exposure: No Data Available

Aspiration Hazard: No Data Available (Formic acid)

Ecological Information

Ecological Toxicity: Toxicity to fish LC50 - Leuciscus idus (Golden orfe) - 46 - 100 mg/l - 96 h (Formic acid) Toxicity to daphnia and

other aquatic invertebrates
EC50 - Daphnia magna (Water flea) - 34,2 mg/l - 48 h (Formic acid)
Toxicity to bacteria EC50 - Pseudomonas putida - 46,7 mg/l - 17 h (Formic acid)

Ecological Persistence and degradability: Biodegradability -- Result: > 90 % - Readily biodegradable (OECD Test Guideline 301C)
Biochemical Oxygen Demand (BOD) -- 86 mg/g (Formic acid)
Chemical Oxygen Demand (COD) -- 348 mg/g (Formic acid)
Ratio BOD/ThBOD -- 8,60 % (Formic acid)

Bioaccumulative Potential: Bioaccumulation is unlikely.

Mobility in Soil: No Data Available (Formic acid)

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: Harmful to aquatic life. Additional ecological information

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: 1779
IMDG: 1779
IATA: 1779

UN Shipping Hazard: ADR/RID: FORMIC ACID
IMDG: FORMIC ACID
IATA: Formic acid

Transport Hazard Class: ADR/RID: 8 (3)
IMDG: 8 (3)
IATA: 8 (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. 1907/2006.

Chemical Safety Assessment: For this product a chemical safety assessment was not carried out.

Additional Info: RTECS: LQ4900000
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting (Formic acid). To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. (Formic acid).
Kidney - Irregularities - Based on Human Evidence (Formic acid).

Disclaimer

The information stated above is considered to be correct, but does not claim to be inclusive and shall only be used as a guideline. The information provided by this document is confirmed by our continuous updating of knowledge and adheres to the products appropriate safety precautions. It does not represent any guarantee of the product's properties. RLS Chemicals and its Associates shall not be held accountable for any damage's consequent of handling the above product.