

SAFETY DATA SHEET

I. PRODUCT AND COMPANY INFORMATION



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Revision Date: 03/17/17

^[1a,b] TRADE NAME(s)	AcuWet 470	^[1c] CHEMICAL FAMILY/ APPLICATION/ RESTRICTIONS	Chemical Mixture Hydrophilic Coating
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II. HAZARDOUS IDENTIFICATION

^[2A] GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 3), H226
Acute toxicity, Oral (Category 3), H301
Acute toxicity, Inhalation (Category 3), H331
Acute toxicity, Dermal (Category 4), H312
Skin irritation (Category 2), H315
Serious eye damage (Category 1), H318
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

^[2B] LABELING ELEMENTS, Hazard, and Precautionary Statements



Signal word: Danger Pictogram(s):

Hazard statement(s):

H226 Flammable liquid and vapour.
 H301 + H331 Toxic if swallowed or if inhaled
 H312 Harmful in contact with skin.
 H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H335 May cause respiratory irritation.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.
 P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
 P242 Use only non-sparking tools.
 P243 Take precautionary measures against static discharge.
 P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
 P264 Wash skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
 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.
 P310 Immediately call a POISON CENTER or doctor/ physician.
 P322 Specific measures (see supplemental first aid instructions on this label).
 P330 Rinse mouth.
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.
 P362 Take off contaminated clothing and wash before reuse.
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam 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 an approved waste disposal plant.

[2C] **HAZARDS NOT OTHERWISE CLASSIFIED:** none known

[2D] **INGREDIENTS OF UNKNOWN ACUTE TOXICITY >/= 1%:**

III. COMPOSITION / INFORMATION ON INGREDIENT(S)

[3a,b,d] CHEMICAL NAME/SYNONYMS	[3C] CAS NUMBER	EINECS NO.	CONC.*
Proprietary Active Blend*	n/a	n/a	0 - 5%
2,2,2-Trifluoroethanol	75-89-8	200-913-6	95 - 100 %

* The specific chemical identity and/or percentage of this material has been withheld as a trade secret.

IV. FIRST AID MEASURES

[4a] INHALATION	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
[4a] SKIN CONTACT	Wash off with soap and plenty of water. Consult a physician.
[4a] EYE CONTACT	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
[4a] INGESTION	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with

	water. Consult a physician.
^[4b] MOST IMPORTANT SYMPTOMS & EFFECTS	The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11
^[4c] INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED	no data available

V. FIREFIGHTING MEASURES

^[5a] SUITABLE/ UNSUITABLE EXTINGUISHING MEDIA	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
^[5b] SPECIFIC HAZARDS IE HAZARDOUS COMBUSTION PRODUCTS	Burning may form Carbon oxides, Hydrogen fluoride. Use water spray to cool unopened containers. Flash back possible over considerable distance.
^[5c] PRECAUTIONS / SPECIAL PROTECTIVE EQUIPMENT	Wear self contained breathing apparatus for fire fighting if necessary. In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray to cool unopened containers.

VI. ACCIDENTAL RELEASE MEASURES

^[6a] PERSON PRECAUTIONS, PPE, EMERGENCY PROCEDURES	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.
^[6a] METHODS & MATERIALS OF CONTAINMENT & CLEANING	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. Prevent material from entering storm sewers or waterways.

VII. HANDLING AND STORAGE

^[7a] PRECAUTIONS FOR SAFE HANDLING	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Flashback possible over considerable distance. Container explosion may occur under fire conditions. Use explosion proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.
^[7b] CONDITIONS FOR SAFE STORAGE	Keep away from heat, sparks, and flame. Keep away from sources of ignition. Flammables-area. Store under inert gas. Moisture sensitive.

VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION

[8a] COMPONENT	PEL/ TWA/ STEL	CONTROL PARAMETERS	BASIS (ACGIH, OSHA ETC)	NOTES
2,2,2- Trifluoroethanol, 75-89-8	TWA	0.3 ppm	USA. Workplace Environmental Exposure Levels (WEEL)	

[8b] VENTILATION / ENGINEERING CONTROLS	Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
[8c] 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).
[8c] SKIN PROTECTION	<p>Wear appropriate protective gloves to prevent skin exposure. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.</p> <p>Full contact Material: butyl-rubber Minimum layer thickness: 0.3 mm Breakthrough time: 480 min Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)</p> <p>Splash contact Material: Nitrile rubber Minimum layer thickness: 0.4 mm Breakthrough time: 30 min Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374</p> <p>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.</p>
[8c] EYE PROTECTION	Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
[8c] CLOTHING	Wear appropriate protective clothing to prevent skin exposure.

IX. PHYSICAL AND CHEMICAL PROPERTIES

[9a] Appearance (physical state, color, etc.	Liquid, Clear Colorless	[9j] Upper/lower flammability or explosive limits:	Lower: 5.5% UEL: 42%
[9b] Odor	no data available	[9k] Vapor pressure	93 hPa (70 mmHg) at 25 °C (77 °F)
[9c] Odor threshold	no data available	[9l] Vapor density	~3 (Air = 1)
[9d] pH	no data available	[9m] Relative Density	1.3 - 1.5
[9e] Melting point/freezing point	no data available	[9n] Solubility (in H₂O)	no data available
[9f] Initial boiling point and boiling range	77 - 80 °C (171 - 176 °F) - lit.	[9o] Partition coefficient: n-octanol/water	no data available
[9g] Flash point	29 °C (84 °F) - closed cup	[9p] Auto-ignition temperature	no data available
[9h] Evaporation rate	no data available	[9q] Decomposition temperature	no data available
[9i] Flammability (solid, gas)	no data available	[9r] Viscosity	no data available

X. STABILITY AND REACTIVITY

[10a] REACTIVITY	no data available
[10b] CHEMICAL STABILITY	Stable under recommended storage conditions..
[10c] POSSIBILITIES OF HAZARDOUS REACTIONS	Vapours may form explosive mixture with air.
[10d] CONDITIONS TO AVOID	Exposure to moisture. Ignition sources, excess heat
[10e] INCOMPATIBLE MATERIALS	Strong oxidizing agents, strong acids, sodium/sodium oxides, potassium. May damage some forms of plastics with prolonged exposure.
[10f] HAZARDOUS DECOMPOSITION PRODUCTS	Other decomposition products - no data available In the event of fire: see section 5

XI. TOXICOLOGY INFORMATION

[11a] LIKELY ROUTES OF EXPOSURE	<p>INHALATION: is not expected if proper ventilation or personal protective equipment is used while working with this product</p> <p>INGESTION: Ingestion is not expected if proper industrial hygiene practices are followed, including no eating, drinking, or smoking while working with chemicals</p> <p>SKIN: is not expected if proper personal protective equipment (gloves and protective clothing) is used while working with this product</p> <p>EYE CONTACT: is not expected if proper personal protective equipment (safety glasses or goggles) is used while working with this product</p>
[11b] SYMPTOMS RELATED TO PHYSICAL, CHEMICAL &	<p>INHALATION: May cause respiratory irritation. Toxic if inhaled or ingested.</p> <p>INGESTION: May cause irritation. Toxic if inhaled or ingested.</p> <p>SKIN: Skin corrosion/irritation: Skin - rabbit Result: Severe skin irritation - 24 h</p> <p>EYE CONTACT: Serious eye damage/eye irritation: Eyes - rabbit; Result: Eye irritation - 24 h</p>

TOXIC CHARACTERISTICS	
[11d] DELAYED / IMMEDIATE EFFECTS, CHRONIC EFFECTS FROM SHORT/LONG TERM EXPOSURE	Reproductive toxicity: no data available Specific target organ toxicity - single exposure: Inhalation - May cause respiratory irritation. Specific target organ toxicity - repeated exposure: no data available Aspiration hazard: no data available Additional Information RTECS: KM5250000 burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Pulmonary edema. Effects may be delayed.
[11D] NUMERICAL MEASURES OF TOXICITY	Acute toxicity for 2,2,2-Trifluoroethanol LD50 Oral - rat - 240 mg/kg LC50 Inhalation - rat - 6 h - 470 ppm - Remarks: Behavioral:Tremor. Behavioral:Ataxia. Skin and Appendages: Other: Hair. LD50 Dermal - rat - 1,680 mg/kg Skin corrosion/irritation: Skin - rabbit; Result: Severe skin irritation - 24 h Serious eye damage/eye irritation: Eyes - rabbit; Result: Eye irritation - 24 h Respiratory or skin sensitisation:no data available Germ cell mutagenicity :no data available
[11e] 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. ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

XII. ECOLOGICAL INFORMATION

[12a] ECOTOXICITY	The ecological information and warnings are driven by the solvent. See below for the relevant data for the 2,2,2-Trifluoroethanol. The other components either have no ecotoxicological effects or no data available. Toxicity to fish LC50 - LC50 - Pimephales promelas (fathead minnow) - 105 - 135 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates: No data available Toxicity to algae EC50 - No data available
[12b] PERSISTENCE AND DEGRADABILITY	No data available
[12c] BIOACCUMULATIVE POTENTIAL	No data available
[12d] MOBILITY IN SOIL	No data available
[12e] OTHER ADVERSE EFFECTS (OZONE)	No data available

LAYER ETC.)	
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XIII. DISPOSAL CONSIDERATIONS

^[13] 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. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated Packaging Disposal: Dispose of as unused product.

XIV. TRANSPORTATION INFORMATION

^[14a] UN/NA	^[14b] UN/NA PROPER SHIPPING NAME	^[14ca] TRANSPORT HAZARD CLASS	^[14d] PACKING GROUP
UN 1992	Flammable Liquid, toxic n.o.s. (2,2,2, Trifluoroethanol)	3 (6.1)	III

US DOT/IATA	Flammable Liquid, toxic n.o.s. (2,2,2, Trifluoroethanol), 3 (6.1), III
^[14d] ENVIRONMENTAL HAZARDS	Marine Pollutant: no
^[14f] BULK TRANSPORT (MARPOL 73/78/IBC CODE)	IMDG: Flammable Liquid, toxic n.o.s. (2,2,2, Trifluoroethanol), 3 (6.1), III EMS-No: F-E, S-D
^[14g] SPECIAL PRECAUTIONS	none known

XV. REGULATORY INFORMATION

US

TSCA	The components in this mixture are listed on the US inventory.
OSHA	This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard.
SARA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
The following components are subject to reporting levels established by SARA Title III, Section 313	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
Sara 311/312 Hazards	Fire Hazard, Acute Health Hazard,
Massachusetts Right To Know Components	No Components Listed
Pennsylvania Right To Know Components	2,2,2-Trifluoroethanol, CAS# 75-89-8
New Jersey Right To Know Components	2,2,2-Trifluoroethanol, CAS# 75-89-8
California Prop. 65 Components	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

XVI. OTHER INFORMATION

Revision Date: 03/17/17

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