

## Safety Data Sheet (SDS)

[www.HMTsolder.com](http://www.HMTsolder.com)

To comply with European CLP Regulation 1272/2008, US 29CFR 1910.1200 OSHA's Hazard Communication Standard, and Australian NOHSC: 1008 [2004] and ADG Code 7.4

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** HMT55 Co Solvent Rinse Agent  
**SYNONYMS:** HFE Rinsing Agent  
**PART NUMBERS:** HMT-55CS, HMT-55CS-0.5GAL, HMT-55CS-1GAL, HMT-55CS-5GAL, HMT-55CS-55GAL

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**REVISION DATE:** 2021/04/13  
**REVISION NUMBER:** 1.1  
**REVISED BY:** HMT Solder Product Safety

**PRODUCT USE:** Cleaning Solvent/Rinsing Agent

### 2. HAZARD IDENTIFICATION

Classified in accordance with European CLP Regulation 1272/2008

Acute Tox. 1  
Skins Sens. 2

**CHEMICAL NAME:** NA  
**CHEMICAL FAMILY:** Mixture  
**CHEMICAL FORMULA:** Proprietary

**ROUTES OF ENTRY:** Inhalation, Ingestion, Skin/Eye Contact

**TARGET ORGANS:** NA

**GHS/CLP:**



Signal Word: Warning

#### GHS/CLP LABEL ELEMENTS:

Hazard statement(s)  
H336

May cause drowsiness or dizziness

Precautionary statement(s)

P102 Keep out of reach of children.  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P261 Do not breathe dust/fume/gas/mist/vapor/spray.  
P262 Do not get in eyes, on skin, or on clothing.  
P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink, or smoke when using this product.  
P271 Use in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P284 In case of inadequate ventilation wear respiratory protection.  
P301/P330/P331/P310 IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Immediately call a POISON CENTER/Doctor.  
P303/P361/P352/P333/P313 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash with soap & water. Get medical advice/attention if skin irritation or rash occurs or if you feel unwell.  
P304/P340/312 IF INHALED: Remove victim to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.  
P305/P351/338/P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call POISON CENTER/Doctor.  
P308/P313 IF EXPOSED OR CONCERNED: Get medical advice/attention.  
P342/P311 IF EXPERIENCING RESPIRATORY SYMPTOMS: Call POISON CENTER/Doctor.  
P362 Take off contaminated clothing and wash it before reuse.  
P391 Collect spillage.

P402/P404 Store in a dry place. Store in a closed container.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**POTENTIAL HEALTH EFFECTS:**

**EYE CONTACT:** May cause moderate irritation. Do not allow material to come in contact with eyes.  
**SKIN CONTACT:** May cause moderate skin irritation.  
**INHALATION:** May cause irritation to the respiratory tract.  
**INGESTION:** May be fatal if swallowed and enters airways.  
**CHRONIC:** Not established.

**MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE:** Diseases of the blood-forming organs, kidneys, nervous and possibly reproductive systems. Occupational Asthma.

**SECTION 2 NOTES:**

HMT Solder Inc. does not recommend, manufacture, market, or endorse any of its products for human consumption.

Other hazards not contributing to the classification: Combustible liquid.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Classified in accordance with European CLP Regulation 1272/2008

Name	Product Identifier	%
1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether	CAS: 406-78-0	94.5±0.5
Ethyl Alcohol	CAS: 64-17-5	5.5±0.5

**SECTION 3 NOTES:**

(1) Per 29 CFR 1910 the mixture has not been tested as a whole. All hazardous components, which comprise 1% of the mixture (0.1% carcinogenic), are listed. Percentages of individual components are not listed as this information is considered a trade secret.

(2) The identity of the specific chemical(s) is being withheld as a trade secret per 29 CFR 1910.1200. The hazardous properties of these ingredients are disclosed in this SDS.

4. FIRST-AID MEASURES

**EYES:** Flush with plenty of water, contact a physician. If contact lenses can be removed easily, flush eyes without contact lenses.

**SKIN:** Wash affected area with plenty of warm, soapy water. If irritation persists, seek medical attention.

**INGESTION:** Call a physician or Poison Control Center immediately. Do not induce vomiting.

**INHALATION:** Remove to fresh air. If not breathing, seek immediate medical attention.

5. FIREFIGHTING MEASURES

**EXTINGUISHING MEDIA:** Water Spray, Dry chemical, foam, Carbon dioxide

**SPECIAL FIRE FIGHTING PROCEDURES:** Do not use strong water jet. Use NIOSH-approved self-contained Breathing Apparatus and full protective clothing if involved in a fire.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** This product does not present any unusual fire and explosion hazards.

6. ACCIDENTAL RELEASE MEASURES

**ACCIDENTAL RELEASE MEASURES:** If material spills or leaks, remove traces of residue using absorbent sand or earth. Exposure to spilled material may be irritating. Follow on-site personal protective equipment recommendations.

**ENVIRONMENTAL PRECAUTIONS:** Avoid release to the environment. Collect spillage.

**SECTION 6 NOTES:**

See Sections 2, 4, and 7 for additional information.

7. HANDLING AND STORAGE

**HANDLING/STORAGE:** Keep containers tightly closed when not in use. Use care to avoid spills. Avoid inhalation of fumes. Avoid contact with eyes, skin, and clothing. Store in a closed corrosive resistant container, with corrosive resistant liner, in cool dry place. Wear appropriate personal protective equipment when working with or handling. Always wash hands thoroughly after handling this product. Dispose of following Federal, State/Provincial, and Local regulations.

**OTHER PRECAUTIONS:** Empty containers may retain product residues in vapor, liquid, and/or solid form. All labeled hazard precautions should be observed.

**WORK HYGIENIC PRACTICES:** Cosmetics/Food/Drink/Tobacco should not be consumed or used in work areas. Always wash hands after handling material and before applying or using cosmetics/food/drink/tobacco.

**SECTION 7 NOTES:**

For industrial use only.  
Keep out of reach of children.

Not for internal consumption.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	OSHA (1993)	ACGIH (2014)	NIOSH
1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether	-	-	-
Ethyl Alcohol	PEL-TWA: 1000ppm	TWA: 1000ppm	REL-TWA: 1000ppm

**ENGINEERING CONTROLS:** Use only with production equipment designed for use with solvent cleaners.

**VENTILATION:** Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLVs.

**RESPIRATORY PROTECTION:** A (US: NIOSH; EU: EN 140:1998, EN 14387:2004 A)-approved air-purifying respirator with fume/organic chemical cartridge should be worn when airborne concentrations may be exceeded. General and local exhaust ventilation is the preferred means of protection.

**EYE PROTECTION:** Use with appropriate eye protection: Goggles or face shield (EU: EN 166-S 3 9).

**SKIN PROTECTION:** Protective gloves (solvent resistant) should be worn when the possibility of skin contact exists (EU: EN 374-1:2003).

**PROTECTIVE CLOTHING OR EQUIPMENT:** Wear suitable protective clothing.

**WORK HYGIENIC PRACTICES:** Cosmetics/Food/Drink/Tobacco should not be consumed or used in areas where solder products may be used. Always wash hands after handling solvents and before applying or using cosmetics/food/drink/tobacco.

**OTHER:** Maintain eye wash stations in work areas. Avoid the use of contact lenses in high fume areas. Clean protective equipment regularly. Clean up spills immediately.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>PHYSICAL STATE</b>	<b>Liquid</b>
<b>APPEARANCE:</b>	Colorless
<b>ODOR:</b>	Ether
<b>ODOR THRESHOLD:</b>	NE
<b>pH as SUPPLIED:</b>	NE
<b>MELTING POINT:</b>	-90°C
<b>INITIAL BOILING POINT:</b>	53.7°C
<b>FLASH POINT:</b>	Non-Flammable (T.C.C)
<b>EVAPORATION RATE:</b>	66
<b>FLAMMABILITY (solid):</b>	N/A
<b>UPPER/LOWER FLAMMABILITY:</b>	N/A
<b>UPPER/LOWER EXPLOSIVE LIMITS:</b>	N/A
<b>VAPOR PRESSURE:</b>	28 kPa
<b>VAPOR DENSITY (AIR = 1):</b>	N/A
<b>SOLUBILITY IN WATER:</b>	5300ppm
<b>AUTOIGNITION TEMPERATURE:</b>	ND
<b>DECOMPOSITION TEMPERATURE:</b>	NE
<b>VISCOSITY:</b>	N/A

## 10. STABILITY AND REACTIVITY

<b>STABILITY:</b>	Stable
<b>CONDITIONS TO AVOID (STABILITY):</b>	NE
<b>INCOMPATIBILITY (MATERIAL TO AVOID):</b>	Incompatible with alkali or alkaline earth metals-powdered Al, Zn, Be, etc. Avoid contamination with caustic soda, caustic potash or oxidizing materials.
<b>HAZARDOUS DECOMPOSITION/BY-PRODUCTS:</b>	Harmful organic fumes and toxic oxide fumes may form at elevated temperatures.
<b>POSSIBILITY OF HAZARDOUS REACTIONS:</b>	Carbon Oxides (CO, CO <sub>2</sub> )

## 11. TOXICOLOGICAL INFORMATION

### INHALATION:

This product does not present a risk at ambient temperatures. The fumes evolved during use will irritate the nose, throat and lungs. Repeated or prolonged exposure to fumes may cause an allergic affect which may lead to occupational asthma.

### SKIN:

Can cause Skin Irritation

### EYES:

Causes Mild Eye Irritation.

### ACUTE TOXICITY:

Product/Ingredient Name	Oral LD50	Dermal LD50	Inhalation LC50
1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether	>2000mg/kg in rat	>2000mg/kg in rat	>24.8mg/L (3010ppm) in rat
Ethyl Alcohol	7060 ppm in rat 6300 ppm in rabbit 3450 ppm in mouse	24 hours, 20mg moderate rabbit	10 hrs. 20,000 ppm in rat 4 hrs 39g/m <sup>3</sup> in mouse

**SKIN CORRISSION/IRRITATION:** Not available  
**SERIOUS EYE DAMAGE/IRRITATION:**  
**RESPIRATORY OR SKIN SENSITIZATION:** NE  
**GERM CELL MUTAGENICITY:** Not available  
**CARCINOGENICITY:** Not classified as carcinogen  
**REPRODUCTIVE TOXICITY:** Not available  
**STOT-SINGLE EXPOSURE:** May Cause drowsiness or dizziness, has anesthetic effect.  
**STOT-REPEATED EXPOSURE:** NE  
**ASPIRATION HAZARD:** NE

## 12. ECOLOGICAL INFORMATION

### TOXICITY:

Product/Ingredient Name	Result	Exposure
2-methylpentane-2,4-diol	Acute LC50 8.51 mg/l Fresh water	96 hours
	Acute LC50 8.51 mg/l Marine water	96 hours
2-methoxymethylethoxy) propanol	Acute EC50 10mg/l Fresh water	96 hours
	Acute LC50 >1000 mg/l Fresh water	96 hours

**PERSISTENCE AND DEGRADIBILITY:** Not Biodegraded  
**BIOACCUMULATIVE POTENTIAL:** None known  
**MOBILITY:** Insoluble and sinks in water  
**RESULT OF PBT and vPvB ASSESSMENT:** Not applicable  
**OTHER ADVERSE EFFECTS:** NE

## 13. DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL METHOD:** Scrap and waste should be recycled or stored in a dry, sealed container for later disposal. Disposal must be in accordance with Federal, State/Provincial, and Local Regulations.

## 14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.

**UN Number:** Not available  
**UN Proper Shipping Name:** Not available  
**Packaging Group:** Not applicable  
**Environmental Hazards:** None

### TRANSPORT HAZARD CLASSES:

US DOT Hazardous Material Classification: Not Regulated  
 Water Transportation: Non-Hazardous  
 IATA Hazardous Material Classification: Non-Hazardous  
 ADR Road Regulations: Not regulated  
 IMDG Sea Regulations: Not regulated  
 ADG Land Transportation: Not regulated

## 15. REGULATORY INFORMATION

All ingredients used to manufacture this product are listed on the EPA TSCA Inventory. Finished product is not listed on the EPA TSCA Inventory.

**U.S. FEDERAL REGULATIONS:** Not regulated  
**STATE REGULATIONS:** Not regulated  
**INTERNATIONAL REGULATIONS:** Not regulated  
**AUSTRALIAN REGULATIONS:** Not regulated

## 16. OTHER INFORMATION

### LEGEND:

**ACGIH** American Conference of Governmental Industrial Hygienists  
**ADG** Australian Dangerous Goods Code  
**ADR** European Agreement concerning the International Carriage of Dangerous Goods by Road  
**AICS** Australian Inventory of Chemical Substances  
**BCF** Bioconcentration factor  
**C.A.S.** Chemical Abstract Service  
**CLP** Classification, Labeling and Packaging  
**DOT** Department of Transportation  
**EC** Effective Concentration  
**EPA** Environmental Protection Agency  
**GHS** Global Harmonized System  
**HMIS** Hazardous Material Identification System  
**IARC** International Agency for Research on Cancer  
**IATA** International Air Transport Association  
**IMDG** International Maritime Dangerous Goods Code  
**LC** Lethal Concentration  
**LD** Lethal Dose

<b>NA</b>	Not available
<b>NE</b>	Not established
<b>NIOSH</b>	National Institute for Occupational Safety & Health
<b>NOEC</b>	No observed effective concentration
<b>NOHSC</b>	National Occupational Health and Safety Commission (Australia)
<b>NTP</b>	National Toxicology Program
<b>OSHA</b>	Occupational Safety and Health Administration
<b>PEL</b>	Permissible Exposure Limit
<b>P<sub>ow</sub></b>	Octanol water partition coefficient
<b>SDS</b>	Safety Data Sheet
<b>STEL</b>	Short-Term Exposure Limit
<b>STOT</b>	Specific target organ toxicity
<b>TLV</b>	Threshold Limit Value
<b>TSCA</b>	Toxic Substance Control Act
<b>TWA:</b>	Time Weighted Average
<b>US DOT:</b>	United States Department of Transportation

**PREPARATION INFORMATION:**

This update supersedes all previously released documents.

**DISCLAIMER:**

The information and recommendations contained within this publication have been compiled from sources believed to be reliable and to represent the best information available to HMT Solder at the time of issue. No warranty, guarantee, or representation is made by HMT Solder nor does HMT Solder assume any responsibility in connection there within; nor can it be assumed that all acceptable safety measures or other safety measures may not be required under particular or exceptional conditions or circumstances. The data on this Safety Data Sheet relates only to this product and does not relate to use with any other material or in any process. All chemical products should be used only by, or under the direction of, technically qualified personnel who are aware of the hazards involved and necessity for reasonable care in handling. Hazard communication regulations require that employees must be trained on how to use a Safety Data Sheet as a source for hazard information.

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