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Chemori-5112™

MSDS

Material Safety Datasheets

MATERIAL SAFETY DATA SHEET

1,1,1,2,2,4,5,5,5-NONAFLUORO-4-(TRIFLUOROMETHYL)-3-PENTANONE

This MSDS adheres to the standards and regulatory requirements of the United States and may not meet regulatory requirements in other countries.

SECTION 1 – PRODUCT AND COMPANY INFORMATION

TRADE NAME	:	CHEMORI 5112™
SYNONYM	:	Perfluoro(2-methyl-3-pentanone); Dodecafluoro-2-methylpentan-3-one; 1,1,1,2,2,4,5,5,5-nonafluoro-4-(trifluoromethyl)-3-pentanone
MOLECULAR FORMULA	:	$CF_3CF_2C(O)CF(CF_3)_2$
CAS NUMBER	:	756-13-8
COMPANY	:	CHEMORI 16180 SW 72nd Avenue Portland, Oregon 97224
PRODUCT USE	:	Fire extinguishing clean agent

PHONE NUMBERS

PRODUCT INFORMATION	:	+1 503-747-7775
EMERGENCY CONTACT - CHEMTREC (FOR CHEMICAL EMERGENCY ONLY)	:	1-800-424-9300 (within USA and Canada) +1 703-527-3887 (Outside USA and Canada)
EMAIL	:	msds@chemori.com
LISTINGS & APPROVALS	:	

SECTION 2 – COMPOSITION AND INGREDIENT INFORMATION

INGREDIENT NAME	CAS NUMBER	% MOLE/MOLE
1,1,1,2,2,4,5,5,5-Nonafluoro-4-(trifluoromethyl)-3-pentanone	756-13-8	>99.9

SECTION 3 – HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

EYE CONTACT	:	Eye contact during product use is not expected to cause significant irritation.
SKIN CONTACT	:	Skin contact during product use is not expected to cause significant irritation.
INHALATION	:	Inhalation may be harmful if thermal decomposition occurs.
INGESTION	:	Not considered as a likely route of exposure.
CARCINOGENICITY	:	Not considered carcinogenic by NTP, IARC, and OSHA.

POTENTIAL ENVIRONMENTAL EFFECTS

This substance has a high Henry's Law constant and therefore will be primarily found in the atmosphere where photolysis will be the dominant reaction pathway. The ultimate degradation products of the photolysis reaction are HF, CO2 and trifluoroacetic acid (TFA).
This substance does not contribute to ozone depletion; it has an atmospheric lifetime of approximately 5 days and a Global Warming Potential (GWP) of 1 (IPCC 2001 Method).

SECTION 4 – FIRST AID MEASURES

EYE CONTACT	:	Flush eyes with plenty of water. Seek medical attention if signs or symptoms persist.
SKIN CONTACT	:	Wash affected area with plenty of water. Seek medical attention if signs or symptoms persist.
INHALATION	:	Move person to fresh air. Seek medical attention if signs or symptoms persist.
INGESTION	:	No information available.

SECTION 5 – FIRE AND EXPLOSION HAZARD

FLASH POINT	:	Not applicable.
FLAMMABLE LIMIT (in air, % by volume)	:	Not applicable.
AUTO – IGNITION TEMPERATURE	:	Not applicable.
EXTINGUISHING MEDIA	:	Product is a fire-extinguishing agent.
UNUSUAL FIRE AND EXPLOSION HAZARDS	:	Not applicable.
SPECIAL FIRE FIGHTING PROCEDURES	:	Wear full protective clothing and self-contained breathing apparatus as appropriate for specific fire conditions.

PRODUCTS OF COMBUSTION	:	Containers may explode in heat of fire. Predominant decomposition product is hydrogen fluoride in fire situations. By-products are irritating and potentially toxic.

SECTION 6 – ACCIDENTAL SPILL/RELEASE/LEAK MEASURES

ACCIDENTAL SPILL/RELEASE OR LEAK PROCEDURES	:	Evacuate and ventilate affected area with fresh air. Prohibit general entry into areas where high concentrations may exist (especially confined or poorly ventilated areas). Note that the compound vapors are denser than air and thus the concentrations will be higher at lower levels. Observe precautions from other sections. Call CHEMORI for more information on handling and managing the spill. Contain spill. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible. Clean up residue. Place in a metal container approved for transportation by appropriate authorities. Seal the container. Dispose of collected material as soon as possible.
PERSONAL PRECAUTIONS	:	Wear full protective clothing and use appropriate personal protective equipment including self-contained breathing apparatus when entering the affected areas.

SECTION 7 – PRECAUTION IN HANDLING AND STORAGE

HANDLING	:	For industrial or professional use only. Contents may be under pressure, open carefully. Avoid breathing of vapors, mists or spray. Do not breathe thermal decomposition products.
STORAGE	:	Containers should be properly stored and secured to prevent falling or bring knocked over. Do not drag, slide or roll containers. Do not drop containers or permit them to strike against each other. Never apply flame or localized heat directly to any part of the container. Store in a cool, dry, well-ventilated,

under cover area, and separate these products from other incompatible materials. Protect container from possible damage and keep container tightly closed. When use as fire fighting agent in fixed or portable extinguishing systems, follow equipment manufacturer's instructions for operation, inspection, maintenance, and repair of the system.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

VENTILATION	:	Local exhaust ventilation is generally adequate.
RESPIRATORY PROTECTION	:	Generally not required. Wear a self-contained breathing apparatus, if thermal decomposition occurs.
EYE/FACE & SKIN PROTECTION	:	Use chemical goggles or safety glasses with side shields for eye protection. Wear protective gloves to protect hands. Normal work wear is generally adequate for body protection.
WORK HYGIENIC PRACTICES	:	Be cautious in confined space. Avoid eye contact or breathing of vapour, mists or spray.

SECTION 9 – PHYSICAL AND CHEMICAL CHARACTERISTICS

GENERAL	:	Colorless, low odor liquid
MOLECULAR WEIGHT	:	316.04
BOILING POINT	:	49.2 °C / 120.6 °F
MELTING POINT	:	–108 °C / –162.4 °F
VAPOR PRESSURE @ 20 °C/68 °F	:	0.326 bar
VAPOR DENSITY (AIR=1)	:	11.6
SPECIFIC GRAVITY (H_20=1)	:	1.6
VOC	:	1600 g/l
EVAPORATION RATE (Butyl acetate = 1)	:	>1
SOLUBILITY IN WATER	:	Nil

SECTION 10 – STABILITY AND REACTIVITY

CHEMICAL STABILITY	:	Stable under normal storage condition and temperature.
CONDITIONS TO AVOID	:	Avoid source of heat and open flame. Avoid direct sunlight and ultraviolet light.
INCOMPATIBLE MATERIALS	:	Strong bases including amines and alcohols.
HAZARDOUS DECOMPOSITION PRODUCTS:		Thermal decomposition may produce hydrogen fluoride, carbon monoxide, and carbon dioxide.
HAZARDOUS POLYMERIZATION	:	Will not occur.

SECTION 11 – TOXICOLOGICAL INFORMATION

TOXICITY INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12 – ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE INFORMATION

PHOTOLYTIC HALF-LIFE (IN DAYS) : 3-5 days
OZONE DEPLETION POTENTIAL (R-11 = 1) : 0
GLOBAL WARMING POTENTIAL (CO_2 = 1) : 1 for a 100-year time horizon
Photolytic degradation products may include Trifluoroacetic acid (TFA)
NOTE: Hydrolysis is not expected to be a significant degradation pathway. Product is highly insoluble in water and volatile, and use as a clean extinguishing agent would not typically result in releases to aquatic environments.

ECO-TOXICITY
No information available.

SECTION 13 – DISPOSAL CONSIDERATIONS

WASTE DISPOSAL : Incinerate in an industrial or commercial facility in the presence of a combustible material. Combustion products will include HF. Facility must be capable of handling halogenated materials. As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste. Reclaim if feasible. For information on product return, contact your distributor. Product may be reclaimed if not contaminated. All disposals should be in accordance with the local authority having jurisdiction, generally by incineration at an accredited facility with appropriate scrubber and emission control process.

SECTION 14 – TRANSPORT INFORMATION

As the unpressurized agent, CHEMORI 5112 , is not a compressed or liquefied gas, non-flammable and low in toxicity. Thus, it is an unregulated material and has no UN designation.

When shipping pressurized as a Fire Extinguishing Unit, the UN number as follows:-

U.S. DOT

PROPER SHIPPING NAME	:	Fire Extinguisher with compressed or liquefied gas
HAZARD CLASS	:	2.2 Non-flammable gas
UN NUMBER	:	UN1044

AIR TRANSPORT - ICAO OR IATA

PROPER SHIPPING NAME	:	Fire Extinguisher with compressed or liquefied gas
HAZARD CLASS	:	2.2 Non-flammable gas
UN NUMBER	:	UN1044

WATER – IMDG

PROPER SHIPPING NAME	:	Fire Extinguisher with compressed or liquefied gas
HAZARD CLASS	:	2.2 Non-flammable gas
UN NUMBER	:	UN1044

SECTION 15 – REGULATORY INFORMATION

U.S. Federal Regulations

Toxic Substance Control Act (TSCA) Inventory: Listed

SARA Title III Hazard Classifications under Sections 311 and 312

Fire	:	No
Sudden Release of Pressure	:	No
Reactive	:	No
Acute	:	No
Chronic	:	No

SECTION 16 – OTHER INFORMATION

NFPA CODES

HEALTH	=	3
FLAMMABILITY	=	0
REACTIVITY	=	1
SPECIAL HAZARDS	=	None

HMIS CODES

HEALTH	=	1
FLAMMABILITY	=	0
REACTIVITY	=	1
PROTECTION	=	X

HAZARD INDEX

0 = MINIMAL HAZARD, 1 = SLIGHT HAZARD, 2 = MODERATE HAZARD, 3 = SERIOUS HAZARD, 4 = SEVERE HAZARD, X = DEPENDING ON THE USE CONDITIONS

NOTICE TO READER

CHEMORI surges each customer or recipient of this MSDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this MSDS, and any hazards associated with the product. The above information is provided in good faith and believed to be accurate, but does not claim to be all inclusive. Since conditions for use of the product are not under the control of the company, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Users should consider these data only as a guide to the appropriate precautionary and emergency handling of the product. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here is based on data available at the time of shipping, is subject to change without notice as new information is obtained, and may not be valid for such material used in combination with any other material or in any process. However, no warranty of any kind, express or implied, is given.