

web: [www.mariel.it](http://www.mariel.it) email: [info@mariel.it](mailto:info@mariel.it)**UV Dye compatible with all refrigerants****Code: 70373 – 70383 - 70384****1. IDENTIFICATION OF PREPARATION AND SOCIETY****1.1 Description trade:** UV Dye compatible with all refrigerants**Code: 70373 – 70383 - 70384****1.2 Uses planned:****Industry:** Automotive**Type of use:** UV Tracer for all Refrigerant Gases**Application:** Professional**1.3****Society:**web: [www.mariel.it](http://www.mariel.it) email: [info@mariel.it](mailto:info@mariel.it)**MARIEL S.R.L.**

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**Telephone:** +39 0322 838319**Fax:** +39 0322838813**e-mail:** [laboratorio@mariel.it](mailto:laboratorio@mariel.it)**1.4 Emergency number:** + 39 0322 838319 - 8.30-12.30 / 13.30-17.30**Medical Center (Italy) ( 24/24 h service)**

Pavia +39 0382 24444 (CAV IRCCS Fondazione Maugeri – Pavia - Italy)

Milano +39 02 66101029 (CAV Ospedale Niguarda Ca' Granda – Milano - Italy)

Bergamo +39 800 883300 (CAV Ospedali Riuniti – Bergamo - Italy)

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Roma +39 06 49978000 (CAV Policlinico Umberto I – Roma - Italy)

Napoli +39 081 7472870 (CAV Ospedale Cardarelli – Napoli - Italy)

**2. HAZARDS INFORMATION****Inhalation:** Inhalation of vapor concentrations should not occur at STP conditions.**Eye Contact:** Liquid splashes may cause eye irritation.**Skin Contact:** Brief contact is essentially nonirritating to skin. Prolonged contact may cause slight skin irritation with local redness, and it is unlikely to result in absorption of harmful amounts.**Ingestion:** Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.**Effects of Repeated Exposure:** Mist may cause irritation of upper respiratory tract (nose and throat) and lungs.**Primary Routes of Exposure:** Skin contact.**3. COMPOSITION AND INFORMATION ON INGREDIENTS**

0-1.5%	<b>Dodecane</b>	EC 203-967-9 CAS 112-40-3
0-3.5%	<b>Butadecane</b>	EC - CAS -
0-3.5%	<b>Pentadecane</b>	EC 211-098-1 CAS 629-62-9
0-1.5%	<b>Esadecane</b>	EC 208-878-9 CAS 544-76-3
90-98%	<b>patented</b>	NA

**4. FIRST AID MEASURES****Inhalation:** Inhalation under normal exposure should not cause problems; however if inhalation has resulted in symptoms, move patient to fresh air and consult a physician.**Eye Contact:** Immediately flush eyes with a large amount of water for at least 15 minutes. If symptoms exist and/or persist, get medical attention.**Skin Contact:** Wash affected skin areas thoroughly with soap and water. Remove contaminated clothing. If skin irritation persists, see a

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physician.

**Ingestion:** If swallowed, give large quantities of water to drink. Ingestion may cause gastric disturbances. Consult a physician.

### 5. FIRE FIGHTING MEASURES

#### 5.1 Extinguishing Media:

Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

#### 5.2 Fire Fighting Procedures:

Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

#### 5.3 Special Protective Equipment for Firefighters:

Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

#### 5.4 Unusual Fire and Explosion Hazards:

Containers may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.

**Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.**

### FIRE AND EXPLOSIVE PROPERTIES:

PROPERTY	PACKAGED PRODUCT
<b>Flash Point – Closed Cup (°C); [°F] :</b>	174°C [345°F] ASTM D93
Auto-Ignition Temperature (°C):	No Test Data Available
Lower Explosive Limit (ppm):	No Test Data Available
Upper Explosive Limit (ppm):	No Test Data Available

### 6. ACCIDENTAL SPILL OR LEAK RELEASE INFORMATION

#### 6.1 Personal Protection:

Appropriate protective equipment must be worn when handling a large spill of this material. See the PERSONAL PROTECTION MEASURES Section for recommendations. If exposed to material during clean-up operations, see the FIRST AID PROCEDURES Section for actions to follow.

#### 6.2 Procedures:

Evacuate the spill area. Floor may be slippery if product has wetted the floor; use care to avoid falling. Ventilate the spill area. Avoid breathing vapor. Contain material spills immediately with inert adsorption materials. Transfer liquids and solid adsorption materials and diking material to separate suitable containers for recovery or disposal.

**CAUTION:** Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

### 7. HANDLING AND STORAGE

#### 7.1 Storage Conditions:

Store in original unopened container. Use product promptly after opening. This material may soften and lift certain paint and surface coatings. Store in a cool, well ventilated place. Keep containers dry. Store product away from reactive and corrosive materials. The minimum recommended storage temperature for this material is -29°C/ -20°F. The maximum storage temperature is 49°C/ 120°F.

#### 7.2 Handling Procedures:

No special precautions required.

#### 7.3 Other Precautions:

Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous

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combustion.

### 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

#### 8.1 Respiratory Protection:

No respiratory protection should be needed.

#### 8.2 Eye Protection:

Use eye goggles and/or face shield.

##### 8.2.1 Hand Protection:

Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use gloves with insulation for thermal protection, when needed. Examples of preferred glove barrier materials include: Butyl rubber. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton.

Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough.

##### 8.2.2 Other Protection:

Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact.



#### 8.3 Facility Control Measures:

Use eye goggles and/or face shield.

##### 8.3.1 Ventilation:

Use normal local exhaust ventilation with a minimum capture velocity of 100 ft/min (30 m/min) at the point of vapor evolution.

##### 8.3.2 Other Protective Equipment:

Facilities storing and utilizing this material should be equipped with an eyewash facility and a safety shower.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### TYPICAL PHYSICAL PROPERTIES:

- Appearance:	: Oily Liquid
- Color	: Bright Yellow
- State	: Liquid
- Odor Characteristics	: Mild
- Kinematic Viscosity	: 49 ± 5 cSt @ 40°C ASTM D445
- Specific Gravity	: 0.998 @ 20°C
- Vapor Density (Air = 1.0)	: > 10
- Vapor Pressure	: < 0.1 mm Hg @ 20°C ASTM E1719
- Melting Point	: No Test Data Available
- Boiling Point	: >200 °C (>392 °F)
- Solubility in Water (by weight)	: < 7 %
- Evaporation Rate (n-butyl acetate = 1.0)	: < 0.1
- pH (product or water extract)	: ~5.6
- Percent Volatility (% weight)	: 0

### 10. STABILITY AND REACTIVITY

web: [www.mariel.it](http://www.mariel.it) email: [info@mariel.it](mailto:info@mariel.it)**UV Dye compatible with all refrigerants****Code: 70373 – 70383 - 70384****10.1 Stability:**

Stable under normal conditions.

**10.2 Conditions to Avoid:**

Exposure to elevated temperatures can cause product to decompose.  
Generation of gas during decomposition can cause pressure in closed systems.

**10.3 Hazardous Decomposition Products:**

Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes, Alcohols, Ethers, Hydrocarbons, Ketones, Organic acids, Polymer fragments.

**10.4 Hazardous Polymerization:**

Product will not undergo hazardous polymerization.

**10.5 Incompatibility:**

Avoid contact with strong oxidizing and reducing agents.

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**11. TOXICOLOGICAL INFORMATION****COMPONENT EXPOSURE INFORMATION:****Exposure Information for Specific Component:**

Health Flam. Reactivity Component				OSHA		ACGIH			
Rating	Rating	Rating	Units	TWA	STEL	TWA	STEL	IDLH	HAP
1	1	0	ppm	NA	NA	NA	NA	NA	No

NA: Not Available;

ppm: parts per million

Note: 1 ppm equals 3.8 mg/m<sup>3</sup>; 5 ppm equals 19 mg/m<sup>3</sup>; 10 ppm equals 38 mg/m<sup>3</sup>; 100 ppm equals 380 mg/m<sup>3</sup>.**11.1 Sensitization:**

Substance did not cause allergic skin reactions when tested in humans.

**11.2 Repeated Dose Toxicity:**

Mist may cause irritation of upper respiratory tract (nose and throat) and lungs.

**11.2 Chronic Toxicity and Carcinogenicity:**

Similar material(s) did not cause cancer in laboratory animals.

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**12. ECOLOGICAL INFORMATION****12.1 Persistence and Degradation:**

Ecological toxicity has not been determined. This product is not considered readily biodegradable.

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**13. DISPOSAL INFORMATION****WASTE DISPOSAL:****13.1 Procedure:**

For disposal, dispose this material at a facility that complies with local, state, and federal regulations. Dispose product by incineration in an approved chemical waste facility. Avoid land filling liquids.

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**14. TRANSPORTATION INFORMATION****DOT Hazard Description:****Proper Shipping Name:** NA**Hazard Class:** NA**Identification Number:** NA**Packing Group:** NA

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All components of this product are on or exempt from the TSCA list.

**TSCA 12(b) COMPONENTS:** None**SARA Title III Section 313 Supplier Notification:** If this product contains the indicated "\*\*\*" toxic chemical(s) subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372. This information must be included in all MSDSs that are copied and distributed for this material.**SARA TITLE III INGREDIENTS CAS NO. % WT. REGULATION SECTION RQ (LBS)**

None

The Reportable Quantity "RQ" of product does not apply. Based on the composition of SARA Title III ingredients and the RQs of ingredients, listed above, none are restrictive of the product composition. Typically this product is packaged in 8 fl oz containers.

**SARA 311/312 HAZARD CATEGORIES:** None**SARA 302 EXTREMELY HAZARDOUS SUBSTANCES:** None**CERCLA HAZARDOUS SUBSTANCES:** None

State Regulations: This product meets requirements of Southern California AQMD Rule 443.1 and Similar Regulations California Proposition 65: This product contains the following chemical known to the State of California to cause cancer: None

**16. OTHER INFORMATION**

Text of R or H phrases mentioned in section 2:

Extremely flammable.

Sure to read the safety information of Mariel. For more information contact the office or authorized distributors of Mariel.

Legislations on MSDS:

Safety Data Sheet agrees with the REACH directive.

Version 1:

Date of revision:

31/03/2009

Version 2:

Date of revision:

29/05/2012

All information, recommendations, and suggestions made by Mariel srl. ("Company") appearing herein concerning our product are based upon tests and data believed to be reliable. However, because of the variable characteristics of analytical procedures and samples, and the inability to control its customers' uses of the information and recommendations, or the related products or materials, Company makes NO WARRANTY, EXPRESS OR IMPLIED as to the accuracy of the information or recommendations or that such are fit for any general or specific purpose, whatsoever. Company shall have NO LIABILITY arising from the use by its customers or any third parties of the information and recommendations, and it shall be each customer's sole responsibility to determine the suitability for its own use of any information or recommendations provided by Company.