

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form	: Substance
Name	: THERMASOLV IM2
Chemical name	: 1,1,1,2,2,4,5,5,5-nonafluoro-4-(trifluoromethyl)-3-pentanone
EC Index-No.	: 606-108-00-X
EC-No.	: 436-710-6
CAS-No.	: 756-13-8
REACH registration No	: 01-2120426966-44
Product code	: 050327901

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### 1.2.1. Relevant identified uses

Use of the substance/mixture	: Immersion cooling Dielectric test
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##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

##### Supplier

INVENTEC PERFORMANCE CHEMICALS SAS  
26 rue des coulons  
P.O. Box BP 27  
94363 BRY SUR MARNE  
France  
T +33 (0) 1 49 83 53 00 - F +33 (0) 1 48 81 24 40  
[ContactFDS@inventec.dehon.com](mailto:ContactFDS@inventec.dehon.com)

#### 1.4. Emergency telephone number

Emergency number : +33 (0) 1 72 11 00 03 - 24h/24 7j/7

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH	0344 892 0111	Only for healthcare professionals

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Aquatic Chronic 3 H412  
Full text of hazard classes, H- and EUH-statements: see section 16

##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Signal word (CLP) : -  
Hazard statements (CLP) : H412 - Harmful to aquatic life with long lasting effects.

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according to Regulation (EC) No. 1907/2006 (REACH)

Precautionary statements (CLP) : P273 - Avoid release to the environment.  
P501 - Dispose of contents and container to hazardous or special waste collection point in accordance with national regulation..

### 2.3. Other hazards

Other hazards which do not result in classification : Do not breathe gas, fumes, vapour or spray.

Contains no PBT/vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name : THERMASOLV IM2  
CAS-No. : 756-13-8  
EC-No. : 436-710-6  
EC Index-No. : 606-108-00-X

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1,1,1,2,2,4,5,5,5- Nonafluoro-4-(Trifluoromethyl)-3-Pentanone	CAS-No.: 756-13-8 EC-No.: 436-710-6 REACH-no: 01-2120426966-44	$\geq 99.7$	Aquatic Chronic 3, H412

Full text of H- and EUH-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.  
First-aid measures after skin contact : Wash with soapy water.  
First-aid measures after eye contact : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
First-aid measures after ingestion : Rinse mouth. If you feel unwell, seek medical advice.

### 4.2. Most important symptoms and effects, both acute and delayed

No additional information available

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Dry powder. Carbon dioxide.  
Unsuitable extinguishing media : Strong water jet.

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### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic and corrosive vapours may be released. During combustion : Hydrogen fluoride, Carbon oxides (CO, CO<sub>2</sub>).

### 5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.  
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop the leak. Turn leaking containers leak-side up to prevent the escape of liquid. Notify authorities if product enters sewers or public waters. Clean up any spills as soon as possible, using an absorbent material to collect it. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Avoid contact with skin and eyes.

#### 6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

### 6.2. Environmental precautions

Dike and contain spill. Prevent entry to sewers and public waters. Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Dispose of contaminated material at an authorized site.

### 6.4. Reference to other sections

For disposal of solid materials or residues refer to section 13 : "Disposal considerations". For further information refer to section 8: "Exposure controls/personal protection".

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Handle and open container with care. Work in a well-ventilated area. Do not breathe vapours. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems. Install a retention tank.  
Storage conditions : Store in a well-ventilated place. Keep container tightly closed. Keep away from naked flames/heat.  
Incompatible products : Strong bases. Amines. alcohols.  
Storage temperature : ≤ 38 °C

### 7.3. Specific end use(s)

No additional information available

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 8.1.1 National occupational exposure and biological limit values

No additional information available

##### 8.1.2. Recommended monitoring procedures

No additional information available

##### 8.1.3. Air contaminants formed

No additional information available

##### 8.1.4. DNEL and PNEC

No additional information available

##### 8.1.5. Control banding

No additional information available

#### 8.2. Exposure controls

##### 8.2.1. Appropriate engineering controls

No additional information available

##### 8.2.2. Personal protection equipment

###### 8.2.2.1. Eye and face protection

###### Eye protection:

Safety glasses with side shields. EN 166

###### 8.2.2.2. Skin protection

###### Skin and body protection:

Majority cotton protective clothing

###### Hand protection:

Chemical resistant gloves (according to European standard NF EN 374 or equivalent)

###### 8.2.2.3. Respiratory protection

###### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

###### 8.2.2.4. Thermal hazards

No additional information available

##### 8.2.3. Environmental exposure controls

###### Other information:

Do not eat, drink or smoke during use. Safety shower. Eye fountain.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Odour	: slight.
Odour threshold	: Not available
Melting point	: -108 °C
Freezing point	: Not available
Boiling point	: 49 °C
Flammability	: Not available
Explosive properties	: Not explosive material according to EC criteria.
Oxidising properties	: Non oxidizing material according to EC criteria.
Explosive limits	: Not available

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Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: None
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: 0.375 mm <sup>2</sup> /s
Viscosity, dynamic	: 0.6 mPa.s (25°C)
Solubility	: Insoluble in water.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: 0.326 bar (20°C)
Vapour pressure at 50°C	: Not available
Density	: 1.6 g/ml (20°C)
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Relative density of saturated gas/air mixture	: 11.6 (Air=1)
Particle characteristics	: Not applicable

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

Critical temperature : 168.7 °C

#### 9.2.2. Other safety characteristics

Relative evaporation rate (butylacetate=1) : ≥ 1  
VOC content : 1600 g/l

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Heat. Direct sunlight.

### 10.5. Incompatible materials

Strong bases. Amines. alcohols.

### 10.6. Hazardous decomposition products

On combustion or on thermal decomposition (pyrolysis) releases : Carbon oxides (CO, CO<sub>2</sub>), Hydrogen fluoride.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

#### 1,1,1,2,2,4,5,5,5- Nonafluoro-4-(Trifluoromethyl)-3-Pentanone (756-13-8)

LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 µl/kg

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### 1,1,1,2,2,4,5,5,5- Nonafluoro-4-(Trifluoromethyl)-3-Pentanone (756-13-8)

LC50 Inhalation - Rat (Vapours)	> 98663 mg/l/4h
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

### THERMASOLV IM2 (756-13-8)

Viscosity, kinematic	0.375 mm <sup>2</sup> /s
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### 11.2. Information on other hazards

No additional information available

## SECTION 12: Ecological information

### 12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Harmful to aquatic life with long lasting effects.

### 1,1,1,2,2,4,5,5,5- Nonafluoro-4-(Trifluoromethyl)-3-Pentanone (756-13-8)

LC50 - Fish [1]	> 1070 mg/l 96 Hours (Pimephales promelas)
EC50 - Crustacea [1]	> 1080 mg/l 48 Hours (Daphnia magna)
EC50 72h - Algae [1]	10.6 mg/l 96 Hours (Pimephales promelas)

### 12.2. Persistence and degradability

#### THERMASOLV IM2 (756-13-8)

Persistence and degradability	May cause long-term adverse effects in the environment.
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### 12.3. Bioaccumulative potential

#### THERMASOLV IM2 (756-13-8)

Bioaccumulative potential	Not established.
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### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

No additional information available

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

- Product/Packaging disposal recommendations : Recycle or dispose of in compliance with current legislation. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to a hazardous or special waste collection point. Empty the packaging completely prior to disposal.
- Additional information : Refer to manufacturer or supplier for information on recovery or recycling. The user's attention is drawn to the possible existence of specific european, national or local regulations regarding disposal.
- Ecology - waste materials : Do not discharge into drains or the environment.
- European List of Waste (LoW) code : 07 01 03\* - organic halogenated solvents, washing liquids and mother liquors

### SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA
<b>14.1. UN number or ID number</b>		
Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>		
Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>		
Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>		
Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>		
Not applicable	Not applicable	Not applicable
No supplementary information available		

#### 14.6. Special precautions for user

##### Overland transport

Not applicable

##### Transport by sea

Not applicable

##### Air transport

Not applicable

#### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

##### 15.1.1. EU-Regulations

###### REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

###### REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

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### REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

### PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

### POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

### Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

### VOC Directive (2004/42)

VOC content : 1600 g/l

### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

### 15.1.2. National regulations

No additional information available

## 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

### Full text of H- and EUH-statements:

Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
H412	Harmful to aquatic life with long lasting effects.

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.