

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

### 1.1. Product identifier

Product form	: Substance
Name	: PROMOSOLV DR4
Chemical name	: reaction mass of: 1-ethoxy-1,1,2,3,3,3-hexafluoro-2-(trifluoromethyl)propane; 1-ethoxy-1,1,2,2,3,3,3,4,4,4-nonafluorobutane
EC Index-No.	: 603-109-00-7
EC-No.	: 425-340-0
CAS-No.	: 163702-06-5
REACH registration No.	: 01-0000017174-74
Product code	: R&D

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

#### 1.2.1. Relevant identified uses

Industrial/Professional use spec	: Industrial
Use of the substance/mixture	: Drying solvent

#### 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

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Aquatic Chronic 4 H413

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)	: H413 - May cause long lasting harmful effects to aquatic life.
EUH-statements	: EUH018 - In use may form flammable/explosive vapour-air mixture.

### 2.3. Other hazards

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

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Name : PROMOSOLV DR4  
CAS-No. : 163702-06-5  
EC-No. : 425-340-0  
EC Index-No. : 603-109-00-7

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
reaction mass of: 1-ethoxy-1,1,2,3,3,3-hexafluoro-2-(trifluoromethyl)propane; 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane	EC-No.: 425-340-0 EC Index-No.: 603-109-00-7 REACH-no: 01-0000017174-74	90 – 100	Aquatic Chronic 4, H413

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 general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).  
First-aid measures after inhalation : Allow affected person to breathe fresh air. Allow the victim to rest.  
First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.  
First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.  
First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

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

No supplementary information available.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.  
Unsuitable extinguishing media : Do not use a heavy water stream.

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

Fire hazard : Flammable or explosive vapour/air mixtures may be formed.  
Hazardous decomposition products in case of fire : During combustion : Carbon monoxide, Carbon dioxide, Hydrogen fluoride.

#### 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.

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### SECTION 6: Accidental release measures

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

General measures : Avoid contact with skin and eyes. Remove ignition sources.

##### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Evacuate area.

##### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or 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. Store away from other materials.

#### 6.4. Reference to other sections

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

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Additional hazards when processed : Remove all sources of ignition.

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.

Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Separate working clothes from town clothes. Do not drink, eat or smoke in the workplace.

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

Storage conditions : Store in dry, well-ventilated area. Keep container tightly closed. Store away from direct sunlight or other heat sources.

Incompatible products : Strong bases. Strong acids. Strong oxidizing agents.

Incompatible materials : Sources of ignition. Direct sunlight.

#### 7.3. Specific end use(s)

No additional information available

### 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

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### 8.1.4. DNEL and PNEC

PROMOSOLV DR4 (163702-06-5)	
<b>DNEL/DMEL (Workers)</b>	
Long-term - systemic effects, inhalation	1764 mg/m <sup>3</sup>
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.00237 mg/l
PNEC aqua (marine water)	0.000237 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	0.0393 mg/kg dwt
PNEC sediment (marine water)	0.00393 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	0.0041 mg/kg dwt

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station. Do not exceed the occupational exposure limits (OEL). Do not breathe gas/fumes/vapour/spray.

### 8.2.2. Personal protection equipment

#### Personal protective equipment:

Avoid all unnecessary exposure.

#### 8.2.2.1. Eye and face protection

##### Eye protection:

Safety glasses

#### 8.2.2.2. Skin protection

##### Skin and body protection:

Use chemically protective clothing.

##### Hand protection:

Neoprene protective gloves

#### 8.2.2.3. Respiratory protection

##### Respiratory protection:

If the ventilation is suitable, it is not essential to wear 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	: weak.
Odour threshold	: Not available

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Melting point	: -138 °C
Freezing point	: Not available
Boiling point	: 76 °C Atm. press.: 1006 mBar Decomposition: 'no'
Flammability	: Non flammable.
Explosive properties	: Not explosive material according to EC criteria.
Oxidising properties	: Non oxidizing material according to EC criteria.
Explosive limits	: Not available
Lower explosion limit	: 210 g/m <sup>3</sup>
Upper explosion limit	: 1070 g/m <sup>3</sup>
Flash point	: Not available
Auto-ignition temperature	: 375 °C
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: 0.43 mm <sup>2</sup> /s
Solubility	: Insoluble in water.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Partition coefficient n-octanol/water (Log Pow)	: 4.2 (30°C)
Vapour pressure	: 14532.1 Pa (25°C)
Vapour pressure at 50°C	: Not available
Density	: 1.43 g/ml
Relative density	: 1.43
Relative vapour density at 20°C	: 9.1
Particle characteristics	: Not applicable

## 9.2. Other information

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

No additional information available

### 9.2.2. Other safety characteristics

Relative evaporation rate (butylacetate=1)	: 33
VOC content	: 1430 g/l

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

In use may form flammable/explosive vapour-air mixture.

### 10.3. Possibility of hazardous reactions

No dangerous polymerization.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizers.

### 10.6. Hazardous decomposition products

Hazardous decomposition products may be released during prolonged heating like smokes, carbon monoxide and dioxide. Perfluoroisobutylene. 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
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Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

PROMOSOLV DR4 (163702-06-5)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: EU Method B.1 (Acute Toxicity (Oral)), Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method), Remarks on results: other:
LC50 Inhalation - Rat	> 989 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
Skin corrosion/irritation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-single exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met

PROMOSOLV DR4 (163702-06-5)	
NOAEL (oral, rat, 90 days)	≈ 1000 mg/kg bodyweight Animal: rat, Guideline: other:
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met

PROMOSOLV DR4 (163702-06-5)	
Viscosity, kinematic	0.43 mm <sup>2</sup> /s

### 11.2. Information on other hazards

#### 11.2.1. Endocrine disrupting properties

No additional information available

#### 11.2.2. Other information

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : May cause long lasting harmful effects to aquatic life.  
Hazardous to the aquatic environment, short-term (acute) : Not classified  
Hazardous to the aquatic environment, long-term (chronic) : May cause long lasting harmful effects to aquatic life.

PROMOSOLV DR4 (163702-06-5)	
LC50 - Fish [1]	> 2.75 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	> 2.55 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 2.39 mg/l Test organisms (species): Scenedesmus capricornutum

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### 12.2. Persistence and degradability

#### PROMOSOLV DR4 (163702-06-5)

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

#### PROMOSOLV DR4 (163702-06-5)

Partition coefficient n-octanol/water (Log Pow)	4.2 (30°C)
Bioaccumulative potential	Not established.

### 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

Additional information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Additional information	: The user's attention is drawn to the possible existence of specific european, national or local regulations regarding disposal.
Ecology - waste materials	: Avoid release to the environment.
European List of Waste (LoW) code	: 07 01 03* - organic halogenated solvents, washing liquids and mother liquors 14 06 02* - other halogenated solvents and solvent mixtures

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

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

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### 14.6. Special precautions for user

#### Overland transport

Not regulated

#### Transport by sea

Not regulated

#### Air transport

Not regulated

### 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)

##### 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 : 1430 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

Listed on the Japanese ISHL (Industrial Safety and Health Law)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

### 15.2. Chemical safety assessment

For this substance a chemical safety assessment has been carried out



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### 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 4	Hazardous to the aquatic environment – Chronic Hazard, Category 4
EUH018	In use may form flammable/explosive vapour-air mixture.
H413	May cause long lasting harmful effects to aquatic life.

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.