



**SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006**

**RADIATOR LIQUID**

Version 1.0

Print Date 26.10.2017

Revision date / valid from 07.10.2016

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

**1.1. Product identifier**

Trade name : RADIATOR LIQUID

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

Use of the Substance/Mixture : At this time we do not yet have information on identified uses. They will be included in this safety data sheet when available.

Uses advised against : At this moment we have not identified any uses advised against

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

Company : IPONE SA  
Chemin La Meunière  
13480 Cabriès  
Telephone : +33(0)4.42.94.05.65  
E-mail address : info@ipone.fr

**1.4. Emergency telephone number**

Emergency telephone number : Emergency phone number IPONE SA  
Available 24h/7d  
04.42.94.05.65 from within France  
+33(0)4.42. 94.05.65 international

Poison Control Centers in France  
(Service ORFILA by the INRS)  
Available 24h/7d  
Information limited to intoxications  
01 45 42 59 59 from within France  
+33 1 45 42 59 59 international

**SECTION 2: Hazards identification**

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

**Classification according to Regulation (EC) No 1272/2008**

## RADIATOR LIQUID

REGULATION (EC) No 1272/2008			
Hazard class	Hazard category	Target Organs	Hazard statements
Acute toxicity (Oral)	Category 4	---	H302
Specific target organ toxicity - repeated exposure	Category 2	Kidney	H373


For the full text of the H-Statements mentioned in this Section, see Section 16.

### Most important adverse effects

- Human Health : See section 11 for toxicological information.
- Physical and chemical hazards : See section 9 for physicochemical information.
- Potential environmental effects : See section 12 for environmental information.

## 2.2. Label elements

### Labelling according to Regulation (EC) No 1272/2008

- Hazard symbols : 
- Signal word : Warning
- Hazard statements : H302 Harmful if swallowed.  
H373 May cause damage to organs (Kidney) through prolonged or repeated exposure.
- Precautionary statements
- Prevention : P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.
- Response : P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.  
P314 Get medical advice/ attention if you feel unwell.
- Disposal : P501 Dispose of contents/ container to an approved waste disposal plant.

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### Hazardous components which must be listed on the label:

- ethanediol

### 2.3. Other hazards

For Results of PBT and vPvB assessment see section 12.5.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Hazardous components	Amount [%]	Classification (REGULATION (EC) No 1272/2008)	
		Hazard class / Hazard category	Hazard statements
<b>ethanediol</b>			
Index-No. : 603-027-00-1	>= 30 - < 50	Acute Tox.4 STOT RE2	H302 H373
CAS-No. : 107-21-1			
EC-No. : 203-473-3			
EU REACH- : 01-2119456816-28-xxxx			
Reg. No.			

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- General advice : Take off all contaminated clothing immediately.
- If inhaled : Move to fresh air. If symptoms call a physician.
- In case of skin contact : Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist.
- If swallowed : Rinse mouth with water. Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the recovery position. Call a physician immediately.

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

- Symptoms : See Section 11 for more detailed information on health effects and symptoms.

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Effects : See Section 11 for more detailed information on health effects and symptoms.

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

Treatment : Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : High volume water jet

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

Specific hazards during firefighting : Incomplete combustion may form toxic pyrolysis products.

Hazardous combustion products : Carbon monoxide, Carbon dioxide (CO<sub>2</sub>)

### 5.3. Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Wear personal protective equipment.

Further advice : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

## SECTION 6: Accidental release measures

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

Personal precautions : Use personal protective equipment. Keep away unprotected persons. Ensure adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapours or spray mist.

### 6.2. Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

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

Methods and materials for containment and cleaning up : Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Keep in suitable, closed containers for disposal.

Further information : Treat recovered material as described in the section "Disposal considerations".

### 6.4. Reference to other sections

## **RADIATOR LIQUID**

See Section 1 for emergency contact information.  
See Section 8 for information on personal protective equipment.  
See Section 13 for waste treatment information.

### **SECTION 7: Handling and storage**

#### **7.1. Precautions for safe handling**

Advice on safe handling : Keep container tightly closed. Avoid formation of aerosol. Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately.

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

Requirements for storage areas and containers : Suitable materials for containers: Carbon steel; Stainless steel; polyethylene; Unsuitable materials for containers: Aluminium; natural rubber

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Further information on storage conditions : Keep tightly closed in a dry and cool place.

Advice on common storage : Keep away from food, drink and animal feedingstuffs.

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

Specific use(s) : No information available.

### **SECTION 8: Exposure controls/personal protection**

#### **8.1. Control parameters**

<b>Component:</b>	<b>ethanediol</b>	<b>CAS-No. 107-21-1</b>
<b>Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)</b>		

DNEL  
Workers, Long-term - local effects, Inhalation : 35 mg/m<sup>3</sup>

DNEL  
Workers, Long-term - systemic effects, Skin contact : 106 mg/kg bw/day

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DNEL  
Consumers, Long-term - local effects, Inhalation : 7 mg/m<sup>3</sup>

DNEL  
Consumers, Long-term - systemic effects, Skin contact : 53 mg/kg bw/day

### Predicted No Effect Concentration (PNEC)

Fresh water	: 10 mg/l
Marine water	: 1 mg/l
Intermittent releases	: 10 mg/l
Sewage treatment plant (STP)	: 199,5 mg/l
Fresh water sediment	: 20,9 mg/kg
Soil	: 1,53 mg/kg

### Other Occupational Exposure Limit Values

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, Time Weighted Average (TWA):  
20 ppm, 52 mg/m<sup>3</sup>  
Indicative

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, Short Term Exposure Limit (STEL):  
40 ppm, 104 mg/m<sup>3</sup>  
Indicative

France. Threshold Limit Values (VLEP) for Occupational Exposure, French Short Term Limit (VLCT);, Vapor.  
40 ppm, 104 mg/m<sup>3</sup>  
Regulatory indicative (VRI)

France. Threshold Limit Values (VLEP) for Occupational Exposure, French Time Weighted Average (VME);, Vapor.  
20 ppm, 52 mg/m<sup>3</sup>  
Regulatory indicative (VRI)

France. Threshold Limit Values (VLEP) for Occupational Exposure, Skin designation:, Vapor.  
Can be absorbed through the skin.

## 8.2. Exposure controls

### Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

### Personal protective equipment

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### *Respiratory protection*

Advice : Required, if exposure limit is exceeded (e.g. OEL).  
Respiratory protection complying with EN 141.  
Recommended Filter type:A

### *Hand protection*

Advice : Protective gloves complying with EN 374.  
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.  
Protective gloves should be replaced at first signs of wear.  
The following materials are suitable:  
butyl-rubber  
Nitrile rubber

### *Eye protection*

Advice : Safety glasses with side-shields conforming to EN166

### *Skin and body protection*

Advice : Wear personal protective equipment.

### **Environmental exposure controls**

General advice : Do not flush into surface water or sanitary sewer system.  
Avoid subsoil penetration.

## **SECTION 9: Physical and chemical properties**

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

Form	: liquid
Colour	: Turquoise
Odour	: odourless
Odour Threshold	: not determined
pH	: not determined
Freezing point	: not determined
Boiling point/boiling range	: 100 - 197 °C
Flash point	: > 111 °C
Evaporation rate	: not determined

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Flammability (solid, gas)	:	The product is not flammable.
Upper explosion limit	:	28 %(V)
Lower explosion limit	:	3,2 %(V)
Vapour pressure	:	not determined
Relative vapour density	:	not determined
Density	:	1,07 - 1,08 g/cm <sup>3</sup> (20 °C)
Water solubility	:	soluble
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	> 398 °C
Thermal decomposition	:	> 200 °C
Viscosity, dynamic	:	not determined
Explosivity	:	Product is not explosive.
Oxidizing properties	:	not oxidising

### 9.2. Other information

No further information available.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Advice : No decomposition if stored and applied as directed.

### 10.2. Chemical stability

Advice : Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

### 10.4. Conditions to avoid

Conditions to avoid : Heat, flames and sparks. Exposure to moisture  
Temperatures above 40°C. Exposure to light.  
Thermal decomposition : >200 °C

### 10.5. Incompatible materials



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Materials to avoid : Strong oxidizing agents, Acids, Bases, Combustible material

### 10.6. Hazardous decomposition products

Hazardous decomposition products : Carbon oxides

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Data for the product

##### Acute toxicity

###### Oral

Please find this information in the listing of the component/components below in this section.

###### Inhalation

Please find this information in the listing of the component/components below in this section.

###### Dermal

Please find this information in the listing of the component/components below in this section.

##### Irritation

###### Skin

Result : Please find this information in the listing of the component/components below in this section.

###### Eyes

Result : Please find this information in the listing of the component/components below in this section.

##### Sensitisation

Result : Please find this information in the listing of the component/components below in this section.

##### CMR effects

###### CMR Properties

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Carcinogenicity	:	Contains no ingredient listed as a carcinogen
Mutagenicity	:	Contains no ingredient listed as a mutagen
Teratogenicity	:	It is not considered teratogenic.
Reproductive toxicity	:	Contains no ingredient listed as toxic to reproduction

### Specific Target Organ Toxicity

#### Single exposure

Remark	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.
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#### Repeated exposure

Remark	:	May cause damage to organs through prolonged or repeated exposure.
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### Other toxic properties

#### Repeated dose toxicity

no data available

#### Aspiration hazard

No aspiration toxicity classification,

<b>Component:</b>	<b>ethanediol</b>	<b>CAS-No. 107-21-1</b>
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### Acute toxicity

#### Oral

No valid data available.

#### Inhalation

LC50	:	> 2,5 mg/l (Rat; 6 h; dust/mist)
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#### Dermal

LD50	:	> 3500 mg/kg (Mouse, male and female)
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### Irritation

#### Skin

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Result : No skin irritation (Rabbit)

### Eyes

Result : No eye irritation (Rabbit)

### Sensitisation

Result : not sensitizing (Maximisation Test; Dermal; Guinea pig) (OECD Test Guideline 406)

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>Component:</b>	<b>ethanediol</b>	<b>CAS-No. 107-21-1</b>
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#### Acute toxicity

##### Fish

LC50 : 72860 mg/l (Pimephales promelas; 96 h) (static test; EPA OPP 72-1)

#### Toxicity to daphnia and other aquatic invertebrates

EC50 : > 100 mg/l (Daphnia magna; 48 h) (OECD Test Guideline 202)

##### algae

EC50 : 6500 - 13000 mg/l (Selenastrum capricornutum; 96 h) (End point: Growth rate)

### 12.2. Persistence and degradability

<b>Component:</b>	<b>ethanediol</b>	<b>CAS-No. 107-21-1</b>
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#### Persistence and degradability

##### Biodegradability

Result : 90 - 100 % (aerobic; activated sludge; 53 mg/l; Related to: Dissolved organic carbon (DOC); Exposure Time: 10 d)(OECD Test Guideline 301A)  
Readily biodegradable

### 12.3. Bioaccumulative potential

<b>Component:</b>	<b>ethanediol</b>	<b>CAS-No. 107-21-1</b>
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### Bioaccumulation

Result : log Kow ca. -1,36 (23 °C) ((calculated))

Bioaccumulation is not expected.

### 12.4. Mobility in soil

<b>Component:</b>	<b>ethanediol</b>	<b>CAS-No. 107-21-1</b>
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#### Mobility

Water : The product is water soluble.

Air : The substance will not evaporate into the atmosphere from the water surface.

Soil : Adsorption to solid soil phase is not expected.

### 12.5. Results of PBT and vPvB assessment

#### Data for the product

#### Results of PBT and vPvB assessment

Result : This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT)., This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

### 12.6. Other adverse effects

#### Data for the product

#### Additional ecological information

Result : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product : Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.

Contaminated packaging : Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. If recycling is not practicable, dispose of in compliance with local regulations.

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European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

### SECTION 14: Transport information

Not dangerous goods for ADR, RID, IMDG and IATA.

#### 14.1. UN number

Not applicable.

#### 14.2. UN proper shipping name

Not applicable.

#### 14.3. Transport hazard class(es)

Not applicable.

#### 14.4. Packaging group

Not applicable.

#### 14.5. Environmental hazards

Not applicable.

#### 14.6. Special precautions for user

Not applicable.

#### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IMDG : Not applicable.

### SECTION 15: Regulatory information

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

##### Data for the product

Nomenclature of classified installations (ICPE) - Directive Seveso II : 1510 Storage of combustible products, substances and matters above 500 tons in closed warehouse.

Nomenclature of classified installations (ICPE) - Directive : NC Not classified

## RADIATOR LIQUID

Seveso III

<b>Component:</b>	<b>ethanediol</b>	<b>CAS-No. 107-21-1</b>
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### Notification status

#### ethanediol:

Regulatory List	Notification	Notification number
AICS	YES	
DSL	YES	
EINECS	YES	203-473-3
ENCS (JP)	YES	(2)-230
IECSC	YES	
ISHL (JP)	YES	(2)-230
JEX (JP)	YES	(2)-230
KECI (KR)	YES	KE-13169
NZIOC	YES	HSR001534
PICCS (PH)	YES	
TSCA	YES	

### 15.2. Chemical safety assessment

no data available

## SECTION 16: Other information

### Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure.

### Abbreviations and Acronyms

<b>BCF</b>	bioconcentration factor
<b>BOD</b>	biochemical oxygen demand
<b>CAS</b>	Chemical Abstracts Service
<b>CLP</b>	Classification, Labelling and Packaging
<b>CMR</b>	carcinogenic, mutagenic or toxic to reproduction
<b>COD</b>	chemical oxygen demand
<b>DNEL</b>	derived no-effect level
<b>EINECS</b>	European Inventory of Existing Commercial Chemical Substances
<b>ELINCS</b>	European List of Notified Chemical Substances
<b>GHS</b>	Globally Harmonized System of Classification and Labelling of Chemicals
<b>LC50</b>	median lethal concentration
<b>LOAEC</b>	lowest observed adverse effect concentration
<b>LOAEL</b>	lowest observed adverse effect level

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<b>LOEL</b>	lowest observed effect level
<b>NLP</b>	no-longer polymer
<b>NOAEC</b>	no observed adverse effect concentration
<b>NOAEL</b>	no observed adverse effect level
<b>NOEC</b>	no observed effect concentration
<b>NOEL</b>	no observed effect level
<b>OECD</b>	Organisation for Economic Cooperation and Development
<b>OEL</b>	occupational exposure limit
<b>PBT</b>	persistent, bioaccumulative and toxic
<b>PNEC</b>	predicted no-effect concentration
<b>STOT</b>	specific target organ toxicity
<b>SVHC</b>	substance of very high concern
<b>UVCB</b>	substance of unknown or variable composition, complex reaction products or biological materials
<b>vPvB</b>	very persistent and very bioaccumulative

### Further information

- Key literature references and sources for data : Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.
- Methods used for product classification : The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.
- Hints for trainings : The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.
- Other information : The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

|| Indicates updated section.