



# IRMCO ® IRF 25 EV01

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
Issue date: 4/1/2023 Revision date: 6/20/2024 Supersedes version of: 12/20/2023 Version: 1.2

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : IRMCO ® IRF 25 EV01  
UFI : TK2C-09Y3-7V10-9MP1  
Product code : F313-C02  
Type of product : Lubricants  
Product group : Trade product

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

##### Relevant identified uses

Main use category : Industrial use  
Industrial/Professional use spec : Industrial  
Use of the substance/mixture : This product is a water-based metalworking lubricant containing additives for corrosion inhibition, metalworking performance, film strength, and fluid preservation. There is no petroleum oil content in this product.  
Use of the substance/mixture : Industrial use

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

IRMCO	US Distributor
2117 Greenleaf Street	Fuchs Lubricants Co.
60202 Evanston, IL	17050 Lathrop Avenue
USA	Harvey, IL 60426
T 847-864-0255, F 847-864-0012	(708) 333-8900
<a href="mailto:SDS@irmco.com">SDS@irmco.com</a> , <a href="http://www.IRMCO.com">www.IRMCO.com</a>	(800) 255-3924 24 hrs Emergency

#### 1.4. Emergency telephone number

Emergency number : 847-864-0255  
Monday-Friday 8:30 AM - 4:30 PM Central Standard Time (CST)

### SECTION 2: Hazards identification

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

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

Not classified

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

No additional information available

#### 2.2. Label elements

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

EUH phrases : EUH208 - Contains 1,2-benzisothiazol-3(2H)-one(2634-33-5). May produce an allergic reaction.  
EUH210 - Safety data sheet available on request.

#### 2.3. Other hazards

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

#### Component

Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	Propylene glycol (57-55-6), Triethanolamine (102-71-6), 2-amino-2-methylpropanol (124-68-5), 1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one (2634-33-5)( <sup>1</sup> )
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Component	
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	Propylene glycol (57-55-6), Triethanolamine (102-71-6), 2-amino-2-methylpropanol (124-68-5), 1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one (2634-33-5)( <sup>1</sup> )

(<sup>1</sup>) Substance(s) in concentration below 0.1 % and displayed on a voluntary basis

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

Component	
Substance(s) not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605	Triethanolamine (102-71-6), Propylene glycol (57-55-6), 2-amino-2-methylpropanol (124-68-5), 1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one (2634-33-5)( <sup>1</sup> )

(<sup>1</sup>) Substance(s) in concentration below 0.1 % and displayed on a voluntary basis

## SECTION 3: Composition/Information on ingredients

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Triethanolamine substance with national workplace exposure limit(s) (AT, BE, CZ, DE, DK, EE, ES, FI, IE, LT, PT, SE)	CAS-No.: 102-71-6 EC-No.: 203-049-8 REACH-no: 01-2119486482-31-0005	< 4	Not classified
Propylene glycol substance with national workplace exposure limit(s) (GB, HR, IE, LT, LV, PL)	CAS-No.: 57-55-6 EC-No.: 200-338-0 REACH-no: 01-2119456809-23-0156	≤ 1.3	Not classified
2-amino-2-methylpropanol substance with national workplace exposure limit(s) (DE, SI)	CAS-No.: 124-68-5 EC-No.: 204-709-8 EC Index-No.: 603-070-00-6 REACH-no: 01-2119475788-16	≤ 1.3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 3, H412
1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one	CAS-No.: 2634-33-5 EC-No.: 220-120-9 EC Index-No.: 613-088-00-6 REACH-no: 01-2120761540-60	<0.05	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400

Specific concentration limits:		
Name	Product identifier	Specific concentration limits (%)
1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one	CAS-No.: 2634-33-5 EC-No.: 220-120-9 EC Index-No.: 613-088-00-6 REACH-no: 01-2120761540-60	(0.05 ≤ C < 100) Skin Sens. 1; H317

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

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### 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. If you feel unwell, seek medical advice.
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. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Immediately rinse with water for a prolonged period while holding the eyelids wide open. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER or doctor/physician if you feel unwell.

#### 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.
Symptoms/effects after inhalation	: May cause respiratory irritation. May cause damaging effects to central nervous system, metabolism and gastrointestinal tract.
Symptoms/effects after skin contact	: May cause an allergic skin reaction. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact	: Causes eye irritation.
Symptoms/effects after ingestion	: Irritation of the gastric/intestinal mucosa. On ingestion, may affect the liver and kidneys.

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

No additional 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

No additional information available

#### 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 environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	: Intense heat may cause container to burst.

### SECTION 6: Accidental release measures

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

##### For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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##### 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.

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### 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

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Handle in accordance with good industrial hygiene and safety procedures. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. Avoid contact with skin and eyes. Prolonged or repeated contact with the skin may cause dermatitis. Ensure adequate ventilation. Avoid breathing mist, spray.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

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

Storage conditions : Do not freeze. The liquid may freeze if stored outside. Keep container closed when not in use. Store in a well-ventilated place. Keep cool.

Incompatible products : Strong bases. Strong acids. Oxidizing agent. Do not add nitrites or other nitrosating agents.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### National occupational exposure and biological limit values

Propylene glycol (57-55-6)	
Poland - Occupational Exposure Limits	
Local name	Propano-1,2-diol
NDS (OEL TWA)	100 mg/m <sup>3</sup> pary i frakcja wdychalna
Remark	Frakcja wdychalna – frakcja aerozolu wnikaćca przez nos i usta, która po zdeponowaniu w drogach oddechowych stwarza zagrożenie dla zdrowia.
Regulatory reference	Dz. U. 2018 poz. 1286 wraz z późn. zm.
United Kingdom - Occupational Exposure Limits	
Local name	Propane-1,2-diol
WEL TWA (OEL TWA)	474 mg/m <sup>3</sup>
	10 mg/m <sup>3</sup>
	150 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Triethanolamine (102-71-6)	
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	2,2',2''-Nitrilotriethanol
AGW (OEL TWA)	1 mg/m <sup>3</sup> (E)

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Triethanolamine (102-71-6)	
Peak exposure limitation factor	1(I)
Remark	DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden
Regulatory reference	TRGS900
Portugal - Occupational Exposure Limits	
Local name	Trietanolamina
OEL TWA	5 mg/m³
Regulatory reference	Norma Portuguesa NP 1796:2014
Spain - Occupational Exposure Limits	
Local name	Trietanolamina
VLA-ED (OEL TWA)	5 mg/m³
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2024. INSHT
Sweden - Occupational Exposure Limits	
Local name	Trietanolamin
NGV (OEL TWA)	5 mg/m³
	0.8 ppm
KGV (OEL STEL)	10 mg/m³
	1.6 ppm
Remark	H (Ämnet kan lätt upptas genom huden. Det föreskrivna gränsvärdet bedöms ge tillräckligt skydd endast under förutsättning att huden är skyddad mot exponering för ämnet ifråga); V (Väglödande korttidsgränsvärde ska användas som ett rekommenderat högsta värde som inte bör överskridas)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
2-amino-2-methylpropanol (124-68-5)	
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	2-Amino-2-methyl-1-propanol (AMP)
AGW (OEL TWA)	3.7 mg/m³
	1 ppm
Peak exposure limitation factor	2(II)
Remark	DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); H - hautresorptiv; Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden; 11 - Summe aus Dampf und Aerosolen
Regulatory reference	TRGS900

## 8.2. Exposure controls

### Appropriate engineering controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station to maintain airborne concentrations below exposure limits identified in Section 8.1. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

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### Personal protection equipment

#### Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Safety glasses.

#### Personal protective equipment symbol(s):



### Eye and face protection

#### Eye protection:

Chemical goggles or safety glasses. Contact lenses should not be worn

### Skin protection

#### Skin and body protection:

Wear suitable protective clothing

#### Hand protection:

Wear chemically resistant gloves

### Respiratory protection

#### Respiratory protection:

In case of inadequate ventilation wear respiratory protection.

### Environmental exposure controls

#### Other information:

Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Color	: amber. Colorless.
Appearance	: clear.
Odor	: characteristic.
Odor threshold	: Not available
Melting point	: Not available
Freezing point	: $\approx 0\text{ }^{\circ}\text{C}$
Boiling point	: $\approx 100\text{ }^{\circ}\text{C}$
Flammability	: Non flammable.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: $\approx 8.72$
Viscosity, kinematic	: $\approx 141\text{ mm}^2/\text{s}$ @ $40^{\circ}\text{C}$
Solubility	: Soluble in water. Water: 100 %
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapor pressure	: Not available
Vapor pressure at $50^{\circ}\text{C}$	: Not available
Density	: $\approx 1014.9\text{ kg/m}^3$
Relative density	: $\approx 1.015$
Relative vapor density at $20^{\circ}\text{C}$	: Not available
Particle characteristics	: Not applicable

### 9.2. Other information

#### Other safety characteristics

VOC content : Not Applicable

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No additional information available

#### 10.2. Chemical stability

Stable under normal conditions. No polymerization.

#### 10.3. Possibility of hazardous reactions

Do not add nitrites or other nitrosating agents. Addition of nitrites may lead to formation of nitrosamines, a substance known to be carcinogenic in laboratory animals.

#### 10.4. Conditions to avoid

Extremely high or low temperatures.

#### 10.5. Incompatible materials

Strong acids. Strong bases. Oxidizing agent. Do not add nitrites or other nitrosating agents.

#### 10.6. Hazardous decomposition products

Under fire conditions, fumes may contain the original material in addition to unidentified toxic and/or irritating compounds. Carbon monoxide. Carbon dioxide. Nitrogen oxides.

### 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

##### Propylene glycol (57-55-6)

LD50 oral rat	22000 mg/kg (Rat, Male / female, Experimental value, Oral)
LD50 dermal rabbit	> 2000 mg/kg body weight (24 h, Rabbit, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 44.9 mg/l (4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 7 day(s))

##### Triethanolamine (102-71-6)

LD50 oral rat	6400 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 7 day(s))
LD50 dermal rabbit	> 2000 mg/kg body weight (Equivalent or similar to OECD 402, Rabbit, Experimental value, Dermal, 14 day(s))

##### 2-amino-2-methylpropanol (124-68-5)

LD50 oral rat	2900 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	> 2000 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

##### 1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one (2634-33-5)

LD50 oral rat	490 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))

Skin corrosion/irritation : Not classified  
pH: ≈ 8.72

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<b>Propylene glycol (57-55-6)</b>	
pH	6.5 – 7.5 (50 %)
<b>Triethanolamine (102-71-6)</b>	
pH	11 (25 %)
<b>2-amino-2-methylpropanol (124-68-5)</b>	
pH	11.3
<b>1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one (2634-33-5)</b>	
pH	No data available in the literature
Serious eye damage/irritation	: Not classified pH: ≈ 8.72
<b>Propylene glycol (57-55-6)</b>	
pH	6.5 – 7.5 (50 %)
<b>Triethanolamine (102-71-6)</b>	
pH	11 (25 %)
<b>2-amino-2-methylpropanol (124-68-5)</b>	
pH	11.3
<b>1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one (2634-33-5)</b>	
pH	No data available in the literature
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
<b>Triethanolamine (102-71-6)</b>	
IARC group	3 - Not classifiable
<b>Triethanolamine (102-71-6)</b>	
NOAEL (chronic,oral,animal/male,2 years)	63 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 451 (Carcinogenicity Studies)
Reproductive toxicity	: Not classified
<b>Triethanolamine (102-71-6)</b>	
NOAEL (animal/male, F0/P)	1000 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study), Guideline: other.: Guideline: EPA OPPTS 870.3800 (Reproduction and Fertility Effects)
NOAEL (animal/female, F0/P)	300 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study), Guideline: other.: Guideline: EPA OPPTS 870.3800 (Reproduction and Fertility Effects)
<b>2-amino-2-methylpropanol (124-68-5)</b>	
NOAEL (animal/male, F0/P)	≈ 100 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 443 (Extended One-Generation Reproductive Toxicity Study)
NOAEL (animal/female, F0/P)	≥ 200 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 443 (Extended One-Generation Reproductive Toxicity Study)
NOAEL (animal/male, F1)	≈ 100 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 443 (Extended One-Generation Reproductive Toxicity Study)
NOAEL (animal/female, F1)	≥ 200 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 443 (Extended One-Generation Reproductive Toxicity Study)



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### 1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one (2634-33-5)

NOAEL (animal/female, F0/P)	112 mg/kg body weight Animal: rat, Animal sex: female, Guideline: EPA OPPTS 870.3800 (Reproduction and Fertility Effects)
NOAEL (animal/female, F1)	56.6 mg/kg body weight Animal: rat, Animal sex: female, Guideline: EPA OPPTS 870.3800 (Reproduction and Fertility Effects)
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified

### Propylene glycol (57-55-6)

NOAEL (subchronic,oral,animal/male,90 days)	443 mg/kg body weight Animal: cat, Animal sex: male
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### Triethanolamine (102-71-6)

NOAEL (oral,rat,90 days)	1000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
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Aspiration hazard : Not classified

### IRMCO ® IRF 25 EV01

Viscosity, kinematic	≈ 141 mm <sup>2</sup> /s @ 40°C
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### Propylene glycol (57-55-6)

Viscosity, kinematic	55.77 mm <sup>2</sup> /s (20 °C, No data available in the literature)
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### Triethanolamine (102-71-6)

Viscosity, kinematic	830.2 mm <sup>2</sup> /s (20 °C, Equivalent or similar to OECD 114)
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### 1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one (2634-33-5)

Viscosity, kinematic	Not applicable (solid)
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## 11.2. Information on other hazards

### 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

Hazardous to the aquatic environment, short-term (acute) : Not classified  
Hazardous to the aquatic environment, long-term (chronic) : Not classified

### Propylene glycol (57-55-6)

LC50 - Fish [1]	40613 mg/l (96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Measured concentration)
LC50 - Fish [2]	51400 mg/l Test organisms (species): Pimephales promelas
EC50 72h - Algae [1]	24200 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	19300 mg/l Test organisms (species): Skeletonema costatum
EC50 96h - Algae [1]	19000 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [2]	19100 mg/l Test organisms (species): Skeletonema costatum

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Propylene glycol (57-55-6)	
ErC50 algae	24200 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)
Triethanolamine (102-71-6)	
LC50 - Fish [1]	11800 mg/l (APHA, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	609.88 mg/l (ASTM E1192, 48 h, Ceriodaphnia dubia, Static system, Fresh water, Experimental value, Lethal)
EC50 72h - Algae [1]	512 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	216 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	216 mg/l (DIN 38412-9, 72 h, Scenedesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)
NOEC chronic fish	> 1 mg/l Test organisms (species): other:
2-amino-2-methylpropanol (124-68-5)	
LC50 - Fish [1]	190 mg/l Test organisms (species): Lepomis macrochirus
1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one (2634-33-5)	
LC50 - Fish [1]	2.2 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Static system, Experimental value, Nominal concentration)
LC50 - Fish [2]	2.15 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	2.9 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Experimental value, Lethal)
EC50 - Crustacea [2]	2.9 mg/l Test organisms (species): Daphnia magna
ErC50 algae	150 µg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Experimental value, GLP)

## 12.2. Persistence and degradability

IRMCO® IRF 25 EV01	
Persistence and degradability	Not established.
Propylene glycol (57-55-6)	
Persistence and degradability	Biodegradable in the soil, Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.96 – 1.08 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.63 g O <sub>2</sub> /g substance
ThOD	1.69 g O <sub>2</sub> /g substance
Triethanolamine (102-71-6)	
Persistence and degradability	Biodegradable in the soil, No inhibition of nitrification, Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.02 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.5 g O <sub>2</sub> /g substance
ThOD	2.04 g O <sub>2</sub> /g substance
2-amino-2-methylpropanol (124-68-5)	
Persistence and degradability	Rapidly degradable

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### 1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one (2634-33-5)

Persistence and degradability	Not readily biodegradable in water.
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### 12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.
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#### Propylene glycol (57-55-6)

Partition coefficient n-octanol/water (Log Pow)	-1.1 (Experimental value, EU Method A.8: Partition Coefficient, 20.5 °C)
Bioaccumulative potential	Not bioaccumulative.

#### Triethanolamine (102-71-6)

BCF - Fish [1]	0.4 – 3.9 l/kg (Equivalent or similar to OECD 305, 6 week(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	-1.9 (Weight of evidence approach, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

#### 2-amino-2-methylpropanol (124-68-5)

Partition coefficient n-octanol/water (Log Pow)	-0.74
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### 1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one (2634-33-5)

BCF - Fish [1]	6.6 (Equivalent or similar to OECD 305, 56 day(s), Lepomis macrochirus, Experimental value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	-0.9 – 0.99 (Experimental value, EU Method A.8: Partition Coefficient, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

### 12.4. Mobility in soil

#### Propylene glycol (57-55-6)

Surface tension	71.6 mN/m (22 °C, 1.01 g/l, EU Method A.5: Surface tension)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.46 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

#### Triethanolamine (102-71-6)

Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.06 – 1.27 (log Koc, SRC PCKOCWIN v1.66, Calculated value)
Ecology - soil	Highly mobile in soil.

### 1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one (2634-33-5)

Surface tension	72.6 mN/m (20 °C, 0.1 %, EU Method A.5: Surface tension)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.97 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value, GLP)
Ecology - soil	Highly mobile in soil.

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### 12.5. Results of PBT and vPvB assessment

#### Component

Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	Propylene glycol (57-55-6), Triethanolamine (102-71-6), 2-amino-2-methylpropanol (124-68-5), 1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one (2634-33-5)( <sup>1</sup> )
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	Propylene glycol (57-55-6), Triethanolamine (102-71-6), 2-amino-2-methylpropanol (124-68-5), 1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one (2634-33-5)( <sup>1</sup> )

(<sup>1</sup>) Substance(s) in concentration below 0.1 % and displayed on a voluntary basis

### 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. Do not re-use empty containers without proper cleaning or reconditioning.

Additional information : Non hazardous waste per Resource Conservation and Recovery Act (RCRA).

Ecological waste information : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

### 14.1. UN number or ID number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not regulated

Proper Shipping Name (IMDG) : Not regulated

Proper Shipping Name (IATA) : Not regulated

Proper Shipping Name (ADN) : Not regulated

Proper Shipping Name (RID) : Not regulated

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : Not regulated

#### IMDG

Transport hazard class(es) (IMDG) : Not regulated

#### IATA

Transport hazard class(es) (IATA) : Not regulated

#### ADN

Transport hazard class(es) (ADN) : Not regulated

#### RID

Transport hazard class(es) (RID) : Not regulated

### 14.4. Packing group

Packing group (ADR) : Not regulated

Packing group (IMDG) : Not regulated

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Packing group (IATA)	: Not regulated
Packing group (ADN)	: Not regulated
Packing group (RID)	: Not regulated

### 14.5. Environmental hazards

Other information : No supplementary information available

### 14.6. Special precautions for user

#### Overland transport

Not regulated

#### Transport by sea

Not regulated

#### Air transport

Not regulated

#### Inland waterway transport

Not regulated

#### Rail 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

#### EU-Regulations

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

Contains no REACH substances with Annex XVII restrictions

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

Contains no REACH Annex XIV substances.

##### REACH Candidate List (SVHC)

Contains no REACH candidate substance

##### PIC Regulation (Prior Informed Consent)

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

##### POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

##### Ozone Regulation (1005/2009)

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

##### Dual-Use Regulation (428/2009)

Contains substance(s) listed on the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items: Triethanolamine (102-71-6)

##### VOC Directive (2004/42)

VOC content : Not Applicable

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### Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 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 drug precursors)

### National regulations

Not subject to reporting requirements of the United States SARA Section 313

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

All the constituents of this preparation are registered in the EINECS inventory or in the ELINCS list

### France

Professional diseases	
Code	Description
RG 49	Skin disorders caused by aliphatic, alicyclic amines or ethanolamines
RG 49 BIS	Respiratory disorders caused by aliphatic amines, ethanolamines or isophoronediamine
RG 65	Eczematiform lesions of allergic mechanism
RG 66	Occupational rhinitis and asthma
RG 84	Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide

### Germany

Water hazard class (WGK) : WGK 1, slightly hazardous to water (Classification according to AwSV, Annex 1).  
List of sensitizing substances (TRGS 907) : Contains sensitizing substances according TRGS 907.  
Hazardous Incident Ordinance (12. BImSchV) : Is not subject to the Hazardous Incident Ordinance (12. BImSchV)

### Poland

Polish National Regulations : Act of 25 February 2011 on chemical substances and their mixtures (J. o L. No. 63, item 322 as amended; consolidated text J. o L. 2019, item 1225).  
Act of 14 December 2012 on waste (J. o L. 2013, item 322 as amended; consolidated text J. o L. 2020, item 797).  
The announcement of Marshal of the Sejm of the Republic of Poland dated 19 October 2016 concerning the consolidated text announcement of the decree on the management of packaging and packaging waste (J. o L. 2016, item 1863 as amended).  
Decree of the Minister of Environment of 14 December 2014 on the catalogue of waste (J. o L. 2014, item 1923).  
Act of 19 August 2011 on the Carriage of Dangerous Goods (J. o L. 2011 No. 227, item 1367 as amended; consolidated text J. o L. 2020, item 154).  
The ADR Agreement - Annex to the J. o L. of 26 April 2019 Government Statement of 18 February 2019 on the entry into force of the amendments to Annex A and B to the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), signed in Geneva on 30 September 1957 (J. o L. 2019, item 769)  
Regulation of the Minister of Family, Labour and Social Policy of 12 June 2018 on the highest permissible concentration and intensity of noxious agents for health at work environment (J. o L. item 1286 as amended).  
The announcement of Minister of Health dated 9 September 2016 concerning the consolidated text announcement of the decree of the Minister of Health of 30 December 2004 on health and safety at work related to exposure to chemical agents at work (J. o L. of 16 September 2016, item 1488)  
Regulation of the Minister of Health of 2 February 2011 on tests and measurements of the noxious agents for health at work environment (J. o L. No. 33, item 166 as amended).  
Regulation of the Minister of Environment of 9 December 2003 on particularly hazardous substances to the environment (J. o L. No. 217, item 2141).

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### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

### SECTION 16: Other information

Data sources	: This material is classified as hazardous under OSHA regulations. This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.
Other information	: IRMCO products are mixtures protected as trade secrets according to 29 CFR 1910.1200(i). As per GHS regulation, ingredients that contribute to the classification and exceed cut-off values are listed in section 3. For more information contact IRMCO.

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

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard Category 3
EUH208	Contains 1,2-benzisothiazol-3(2H)-one(2634-33-5). May produce an allergic reaction.
EUH210	Safety data sheet available on request.
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization, Category 1

Safety Data Sheet (SDS), EU

We believe all the information contained in this document to be reliable, though the accuracy or completeness is not guaranteed. IRMCO FLUIDS®, IRMCO GEL® and IRMCO EXTREME® products have been used extensively throughout the world in a variety of manufacturing and production applications. It is the responsibility of users of IRMCO products to meet the component surface quality, process compatibility or cleanliness requirements of their customers. Given the complexity and variety of users applications and processes, IRMCO cannot predict all user conditions and results. If surface quality, process compatibility or cleanliness is a user concern, then IRMCO recommends removing/cleaning off the IRMCO product film from the components before final assembly and distribution of such components. User assumes all risk and liabilities associated with the products used.