Safety Data Sheet

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

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

1.1. Product identifier

Product name DPF Refill Fluid X10011

Pure substance/mixture Mixture

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

Recommended Use Fuel additive

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

JLM Lubricants BV
Schiphol Boulevard 127
1118BG Schiphol
The Netherlands
☎: 0031(0)20 201 4995
For further information, please contact

Contact Point Regulatory Affairs Department

E-mail address info@jlmlubricants.com

1.4. Emergency telephone number

Emergency telephone
0031(0)20 201 4995

Emergency telephone - §45 - (EC)1272/2008	
Europe	**112**

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Aspiration hazard	Category 1 - (H304)
Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 1 - (H318)
Skin sensitisation	Category 1A - (H317)
Reproductive toxicity	Category 1B - (H360D)

2.2. Label elements

Contains Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics, 2-Ethylhexanoate acid, iron salt, Hydrocarbons,

C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics, 3,5,5-Trimethyl hexanoic acid

Signal word
Danger

Hazard statements

H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H360D - May damage the unborn child

Precautionary Statements - EU (§28, 1272/2008)
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P310 - Immediately call a POISON CENTER or doctor/physician
P331 - Do NOT induce vomiting
P501 - Dispose of contents/ container to an approved waste disposal plant

Additional information
This product requires child resistant fastenings when supplied to the general public unless the product is placed on the market in the form of aerosols or in a container with a sealed spray attachment.

2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	EC No (EU Index No)	CAS No.	REACH registration number	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Weight-%
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	918-481-9	64742-48-9	01-2119457273-39	Asp. Tox. 1 (H304) (EUH066)	25-50
2-Ethylhexanoate acid, iron salt	243-169-8	19583-54-1	01-2120796720-47	Repr. 1B (H360D) Acute Tox. 4 (H302)	25-50

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	918-481-9	XXXXXX-XX-X	01-2119457273-39	Asp. Tox. 1 (H304)	10-25
3,5,5-Trimethyl hexanoic acid	221-975-0	3302-10-1	01-2119517580-45	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Acute Tox. 4 (H302)	5-10
Phosphoric acid, butyl ester	235-826-2	12788-93-1	01-2119970716-27	Skin Corr. 1B (H314) Eye Dam. 1 (H318)	1-5
maleic anhydride	203-571-6	108-31-6	No data available	STOT RE 1 (H372) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Acute Tox. 4 (H302) EUH071	<0.01

Chemical name	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)	Remarks
maleic anhydride	Skin Sens. 1A :: C>=0.001%	–	–	–

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

Acute Toxicity Estimate
If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air. Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical attention. Delayed pulmonary edema may occur.

Eye contact Get immediate medical attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a doctor.

Ingestion Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Get immediate medical attention.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required.

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

Symptoms Burning sensation. Itching. Rashes. Hives. Difficulty in breathing. Coughing and/ or wheezing. Dizziness.

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

Note to doctors Treat symptomatically. Observe risk of aspiration if vomiting occurs. May cause sensitisation in susceptible persons. Treat symptomatically. Because of the danger of aspiration, emesis or gastric lavage should not be used unless the risk is justified by the presence of additional toxic substances.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Use:. Carbon dioxide (CO2). Dry chemical. Alcohol resistant foam. Cool containers with flooding quantities of water until well after fire is out.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Product is or contains a sensitiser. May cause sensitisation by skin contact.

Hazardous combustion products Carbon monoxide. Carbon dioxide (CO2). Nitrogen oxides (NOx).

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use personal protective equipment as required. Soak up with inert absorbent material. Dam up. Pick up and transfer to properly labelled containers. Clean contaminated surface thoroughly.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information. See Section 12 for additional Ecological Information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Take off contaminated clothing and wash it before reuse. Remove contaminated clothing and shoes.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Store away from other materials.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Material Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
2-Ethylhexanoate acid, iron salt 19583-54-1	–	–	TWA: 1 mg/m³	TWA: 1.0 mg/m³	TWA: 1 mg/m³ STEL: 2 mg/m³
maleic anhydride 108-31-6	–	TWA: 0.1 ppm TWA: 0.4 mg/m³ STEL 0.2 ppm STEL 0.8 mg/m³ Respiratory sensitizer Skin sensitizer	TWA: 0.0025 ppm TWA: 0.01 mg/m³	TWA: 1.0 mg/m³	TWA: 0.41 mg/m³ TWA: 0.1 ppm STEL: 0.2 ppm STEL: 0.8 mg/m³ Skin Sensitisation Respiratory Sensitisation

Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
2-Ethylhexanoate acid, iron salt 19583-54-1	–	–	TWA: 1 mg/m³	–	TWA: 1 mg/m³
maleic anhydride 108-31-6	–	TWA: 1 mg/m³ Ceiling: 2 mg/m³ Sensitizer	TWA: 0.1 ppm TWA: 0.4 mg/m³	TWA: 0.3 ppm TWA: 1.2 mg/m³ STEL: 0.6 ppm STEL: 2.5 mg/m³	TWA: 0.1 ppm TWA: 0.41 mg/m³ Ceiling: 0.2 ppm Ceiling: 0.81 mg/m³

Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics 64742-48-9	–	–	TWA: 50 ppm TWA: 300 mg/m³ Peak: 100 ppm Peak: 600 mg/m³	–	–
2-Ethylhexanoate acid,	–	–	–	TWA: 1 mg/m³	–

iron salt 19583-54-1				STEL: 2 mg/m³	
maleic anhydride 108-31-6	STEL: 1 mg/m³ Sensitizer	TWA: 0.02 ppm TWA: 0.081 mg/m³	TWA: 0.02 ppm TWA: 0.081 mg/m³ Peak: 0.02 ppm Peak: 0.081 mg/m³ respiratory and skin sensitizer	TWA: 0.25 ppm TWA: 1 mg/m³	TWA: 0.08 mg/m³ STEL: 0.4 mg/m³

Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
2-Ethylhexanoate acid, iron salt 19583-54-1	TWA: 1 mg/m³ STEL: 2 mg/m³	–	TWA: 1 mg/m³	–	–
maleic anhydride 108-31-6	TWA: 0.01 ppm STEL: 0.03 ppm Sensitizer	–	TWA: 0.0025 ppm TWA: 0.01 mg/m³	TWA: 1 mg/m³	Sensitizer TWA: 0.3 ppm TWA: 1.2 mg/m³ STEL: 0.6 ppm STEL: 2.5 mg/m³

Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics 64742-48-9	–	–	–	–	STEL: 900 mg/m³ TWA: 300 mg/m³
2-Ethylhexanoate acid, iron salt 19583-54-1	–	–	–	TWA: 1 mg/m³ STEL: 3 mg/m³	–
maleic anhydride 108-31-6	–	–	–	TWA: 0.2 ppm TWA: 0.8 mg/m³ STEL: 0.6 ppm STEL: 2.4 mg/m³	STEL: 1 mg/m³ TWA: 0.5 mg/m³ *

Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
2-Ethylhexanoate acid, iron salt 19583-54-1	TWA: 1 mg/m³	–	–	–	TWA: 1 mg/m³
maleic anhydride 108-31-6	TWA: 0.01 mg/m³ Sensitizer dermal and respiratory	TWA: 0.25 ppm TWA: 1 mg/m³ STEL: 0.75 ppm STEL: 3 mg/m³	TWA: 0.1 ppm TWA: 0.41 mg/m³ Sensitizer	TWA: 0.1 ppm TWA: 0.41 mg/m³ STEL: STEL ppm STEL: STEL mg/m³	TWA: 0.1 ppm TWA: 0.4 mg/m³ sensitizer

Chemical name	Sweden	Switzerland	United Kingdom	Turkey
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics 64742-48-9	–	TWA: 50 ppm TWA: 300 mg/m³ STEL: 100 ppm STEL: 600 mg/m³	–	
2-Ethylhexanoate acid, iron salt 19583-54-1	–	TWA: 1 mg/m³	TWA: 1 mg/m³	
maleic anhydride 108-31-6	NGV: 0.05 ppm NGV: 0.2 mg/m³ Bindande KGV: 0.1 ppm Bindande KGV: 0.4 mg/m³ Sensitizer	TWA: 0.1 ppm TWA: 0.4 mg/m³ STEL: 0.1 ppm STEL: 0.4 mg/m³	TWA: 1 mg/m³ STEL: 3 mg/m³ Sen+	

Biological occupational exposure limits

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
Phosphoric acid, butyl ester 12788-93-1	–	(blood - Pseudocholinesterase after end of work day, at the end of a work week)	–	–	–

Derived No Effect Level (DNEL) worker.
Derived No Effect Level (DNEL)

maleic anhydride (108-31-6)

Type	Systemic health effects, Short term
Exposure route	Dermal
Derived No Effect Level (DNEL)	0.2 mg/kg bw/d

Type	Systemic health effects, Long term
Exposure route	Dermal
Derived No Effect Level (DNEL)	0.2 mg/kg bw/d

Type	Systemic health effects, Long term
Exposure route	Inhalation
Derived No Effect Level (DNEL)	0.19 mg/m³

Type	Local health effects, Long term
Exposure route	Inhalation
Derived No Effect Level (DNEL)	0.32 mg/m³

Type	Systemic health effects, Short term
Exposure route	Inhalation
Derived No Effect Level (DNEL)	0.8 mg/m³

Type	Local health effects, Short term
Exposure route	Inhalation
Derived No Effect Level (DNEL)	0.8 mg/m³

Derived No Effect Level (DNEL) - Consumer

Derived No Effect Level (DNEL)

maleic anhydride (108-31-6)

Type	Systemic health effects, Short term
Exposure route	Oral
Derived No Effect Level (DNEL)	0.1 mg/kg bw/d

Type	Systemic health effects, Short term
Exposure route	Dermal
Derived No Effect Level (DNEL)	0.1 mg/kg bw/d

Type	Systemic health effects, Long term
Exposure route	Dermal
Derived No Effect Level (DNEL)	0.1 mg/kg bw/d

Type	Systemic health effects, Long term
Exposure route	Inhalation
Derived No Effect Level (DNEL)	0.05 mg/m³

Type	Local health effects, Long term
Exposure route	Inhalation
Derived No Effect Level (DNEL)	0.08 mg/m³

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/face protection Tight sealing safety goggles.

Hand protection Gloves must conform to standard EN 374. Wear suitable gloves. Impervious gloves.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Long term (repeated)	Wear protective nitrile rubber	>=0.4 mm	>=480 minutes

	gloves		

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

Respiratory protection Respiratory protection necessary at:. insufficient ventilation. insufficient exhaust. Handling larger quantities. Filtering device (full mask or mouthpiece) with filter.

Recommended Filter type: ABEK1/ ABEK2.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Colour	brown
Odour	characteristic.
Odour threshold	No information available

Property	**Values**	**Remarks • Method**
Melting point/freezing point	No data available	None known
Boiling point / boiling range	=> 160 °C	
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	7.0	
Lower flammability limit	0.6	
Flash Point	> 61 °C	
Autoignition Temperature	> 200 °C	
Decomposition temperature		None known
pH	No data available	
pH (as aqueous solution)	No data available	No information available
Kinematic viscosity	< 6.99 mm2/s	@ 40◦C
Dynamic viscosity	No data available	None known
Water solubility	No data available	@ 20◦C
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapour pressure	<= 10 hPa	@ 20◦C
Relative Density	approx. 0.894 g/cm3	@ 20◦C
Bulk Density	No data available	
Density	No data available	
Vapour Density	No data available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

9.2.1. Information with regards to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data
Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Heat.

10.5. Incompatible materials

Incompatible materials Acids. Bases. Incompatible with oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition can lead to release of irritating and toxic gases and vapours. Carbon monoxide. Carbon dioxide (CO2). Nitrogen oxides (NOx).

SECTION 11: Toxicological information

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

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. May cause sensitisation by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). Repeated exposure may cause skin dryness or cracking. Causes skin irritation.

Ingestion Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Itching. Rashes. Hives. Difficulty in breathing. Coughing and/ or wheezing. Dizziness. May cause redness and tearing of the eyes.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 2,071.20 mg/kg
ATEmix (dermal) 2,956.10 mg/kg

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	> 5000 mg/kg (Rat OECD 401)	> 5000 mg/kg (Rabbit OECD 402)	> 5000 mg/m³ (Rat 4h OECD 403)
2-Ethylhexanoate acid, iron salt	approx. 911 mg/kg	> 2000 mg/kg (Rat)	–
3,5,5-Trimethyl hexanoic acid	approx. 1160 mg/kg (Rat)	> 2000 mg/kg (Rat)	–
maleic anhydride	approx. 400 mg/kg (Rat)	approx. 2620 mg/kg (Rabbit)	= 0.16 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes skin irritation.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes burns. Causes serious eye damage.

maleic anhydride (108-31-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
	Rabbit	Eye			Irritant

Respiratory or skin sensitisation May cause an allergic skin reaction.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as mutagenic.

Chemical name	European Union
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	Muta. 1B

Carcinogenicity Based on available data, the classification criteria are not met.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	European Union
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	Carc. 1B

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Chemical name	European Union
2-Ethylhexanoate acid, iron salt	Repr. 1B

STOT - single exposure Based on available data, the classification criteria are not met.

STOT - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard May be fatal if swallowed and enters airways.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics (64742-48-9)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Scenedesmus subspicatus	EC50	>1000 mg/L	72 hours	
OECD Test No. 203: Fish, Acute Toxicity Test	Oncorhynchus mykiss (rainbow trout)	LC50	>1000 mg/L	96 hours	
OECD Test No. 202: Daphnia sp., Acute Immobilisation Test	Daphnia magna	EC50	>1000 mg/L	48 hours	

maleic anhydride (108-31-6)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
	Algae	EC50	approx. 29 mg/L	72 hours	
	Fish	LC50	approx. 230 ppm	96 hours	
	Daphnia magna	EC50	approx. 84 mg/L	24 hours	

12.2. Persistence and degradability

Persistence and degradability No information available.

Product Information

Biodegradation No information available
BOD No information available
ThCO2 No information available
DOC No information available

12.3. Bioaccumulative potential

Bioaccumulation (factor) No information available

Component Information

Chemical name	Partition coefficient
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	> 4
3,5,5-Trimethyl hexanoic acid	3.2
Phosphoric acid, butyl ester	-0.4
maleic anhydride	-2.36

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment

Chemical name	PBT and vPvB assessment
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	The substance is not PBT / vPvB
2-Ethylhexanoate acid, iron salt	The substance is not PBT / vPvB
3,5,5-Trimethyl hexanoic acid	The substance is not PBT / vPvB
Phosphoric acid, butyl ester	The substance is not PBT / vPvB
maleic anhydride	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging Contaminated packages must be completely emptied and can be re-used following proper cleaning. Clean IBCs or drums at approved facility. Packaging which cannot be properly cleaned must be disposed of. Handle contaminated packages in the same way as the product itself.

OTHER INFORMATION Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

IATA

14.1 UN number or ID number Not regulated
14.2
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental Hazard Not applicable
14.6 Special precautions for user
Special Provisions None

IMDG

14.1 UN number or ID number Not regulated
14.2
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental Hazard Not applicable
14.6 Special precautions for user
Special Provisions None
14.7 Maritime transport in bulk according to IMO instruments No information available

RID

14.1 UN number or ID number	Not regulated
14.2	
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental Hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2	
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental Hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

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

National regulations

France

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number	Title
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics 64742-48-9	RG 84	–
maleic anhydride 108-31-6	RG 66	–

Germany

Water hazard class (WGK) slightly hazardous to water (WGK 1)

Netherlands

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
2-Ethylhexanoate acid, iron salt	–	–	Development Category 1B
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	+	+	–

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 94/33/EC on the protection of young people at work

Not to be used by professional users below 18 years of age, see the National Working Environment Authorities Executive Order on young peoples dangerous work.

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work

Authorisations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
Hydrocarbons, C10-C13, n-alkanes, isoalkanes,	28.	–

cyclics, < 2% aromatics - 64742-48-9	29. 75.	
maleic anhydride - 108-31-6	75.	–

Persistent Organic Pollutants
Not applicable

Named dangerous substances per Seveso Directive (2012/18/EU)

Chemical name	Lower-tier requirements (tons)	Upper-tier requirements (tons)
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics - 64742-48-9	–	25000

Ozone-depleting substances (ODS) regulation (EC) 1005/2009
Not applicable

International Inventories

TSCA	Complies
DSL/NDSL	Contact supplier for inventory compliance status
EINECS/ELINCS	Complies
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AICS	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status
NECI	Contact supplier for inventory compliance status

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals
NECI - Taiwan National Existing Chemical Inventory

15.2. Chemical safety assessment

Chemical Safety Report Chemical safety assessments for substances in this mixture were not carried out For this substance a chemical safety assessment has not been carried out

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3
EUH066 - Repeated exposure may cause skin dryness or cracking
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H314 - Causes severe skin burns and eye damage
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H360D - May damage the unborn child
H372 - Causes damage to organs through prolonged or repeated exposure

Legend
SVHC: Substances of Very High Concern for Authorisation:

Legend SECTION 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	On basis of test data
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	On basis of test data
Carcinogenicity	On basis of test data
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date 05-Apr-2024

Revision note See the red text with asterisks in this safety data sheet for the latest changes.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006
Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information

relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet