

# Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

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

### 1.1. Product identifier

Code: **411 00 20710-6381**  
Product name: **RADIATOR WASHER**

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

Intended use: **Internal cleaning solution for radiators**

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

Name: **Meccanocar Italia S.r.l.**  
Full address: **Via San Francesco, 22**  
District and Country: **56033 Capannoli (PI)**  
**Italy**  
**Tel. +39 0587 609433**  
**Fax +39 0587 607145**

e-mail address of the competent person  
responsible for the Safety Data Sheet

**moreno.meini@meccanocar.it**

### 1.4. Emergency telephone number

For urgent inquiries refer to

**National Poisons Information Service: +44 121 507 4123**

## SECTION 2. Hazards identification

### 2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Serious eye damage, category 1	H318	Causes serious eye damage.
Skin irritation, category 2	H315	Causes skin irritation.

### 2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:

## RADIATOR WASHER



Signal words:

Danger

Hazard statements:

**H373** May cause damage to organs through prolonged or repeated exposure.  
**H318** Causes serious eye damage.  
**H315** Causes skin irritation.

Precautionary statements:

**P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**P280** Wear protective gloves / eye protection / face protection.  
**P310** Immediately call a POISON CENTER / doctor.  
**P264** Wash hands thoroughly after handling.

**Contains:** TECHNICAL BENZOIC ACID  
 1-HEPTANOL, 2-PROPYL, 7EO  
 SODIUM HYDROXIDE

**2.3. Other hazards**

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

**SECTION 3. Composition/information on ingredients****3.2. Mixtures**

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
<b>1-HEPTANOL, 2-PROPYL, 7EO</b>		
CAS 160875-66-1	$3 \leq x < 3,5$	Acute Tox. 4 H302, Eye Dam. 1 H318
EC 605-233-7		
INDEX -		
<b>TECHNICAL BENZOIC ACID</b>		
CAS 65-85-0	$3 \leq x < 3,5$	STOT RE 1 H372, Eye Dam. 1 H318, Skin Irrit. 2 H315
EC 200-618-2		
INDEX -		
Reg. no. 01-2119455536-33-XXXX		
<b>SODIUM HYDROXIDE</b>		
CAS 1310-73-2	$1 \leq x < 1,5$	Skin Corr. 1A H314, Eye Dam. 1 H318
EC 215-185-5		

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Reg. no. 01-2119457892-27-XXXX

The full wording of hazard (H) phrases is given in section 16 of the sheet.

**SECTION 4. First aid measures****4.1. Description of first aid measures**

**EYES:** Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.

**SKIN:** Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.

**INGESTION:** Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.

**INHALATION:** Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

**SECTION 5. Firefighting measures****5.1. Extinguishing media**

**SUITABLE EXTINGUISHING EQUIPMENT**

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

**UNSUITABLE EXTINGUISHING EQUIPMENT**

None in particular.

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

**HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE**

Do not breathe combustion products.

**5.3. Advice for firefighters**

**GENERAL INFORMATION**

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

**SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS**

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

**SECTION 6. Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

**RADIATOR WASHER**

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

**6.2. Environmental precautions**

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

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

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**6.4. Reference to other sections**

Any information on personal protection and disposal is given in sections 8 and 13.

**SECTION 7. Handling and storage****7.1. Precautions for safe handling**

Ensure that there is an adequate earthing system for the equipment and personnel. Avoid contact with eyes and skin. Do not breathe powders, vapours or mists. Do not eat, drink or smoke during use. Wash hands after use. Avoid leakage of the product into the environment.

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

Store only in the original container. Store in a ventilated and dry place, far away from sources of ignition. Keep containers well sealed. Keep the product in clearly labelled containers. Avoid overheating. Avoid violent blows. Keep containers away from any incompatible materials, see section 10 for details.

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

Information not available

**SECTION 8. Exposure controls/personal protection****8.1. Control parameters**

Regulatory References:

ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
NOR	Norge	Fastsatt av Arbeids- og sosialdepartementet 21. august 2018 med hjemmel i lov 17. juni 2005 nr. 62 om arbeidsmiljø, arbeidstid, stillingsvern mv. (arbeidsmiljøloven) § 1-3, § 1-4 og § 4-5
	TLV-ACGIH	ACGIH 2019

**TECHNICAL BENZOIC ACID**

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,34	mg/l
Normal value in marine water	0,034	mg/l
Normal value for fresh water sediment	1,75	mg/kg
Normal value for marine water sediment	0,175	mg/kg

**RADIATOR WASHER**

Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	0,151	mg/kg

Health - Derived no-effect level - DNEL / DMEL								
Route of exposure	Effects on consumers			Effects on workers				
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				16,6 mg/kg bw/d				
Inhalation			0,06 mg/m3	1,5 mg/m3			0,1 mg/m3	3 mg/m3
Skin				31,25 mg/kg bw/d				62,5 mg/kg bw/d

**SODIUM HYDROXIDE  
Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP			2		
VLEP	FRA	2				
WEL	GBR			2		
TLV	NOR	2				
TLV-ACGIH				2 (C)		

Health - Derived no-effect level - DNEL / DMEL								
Route of exposure	Effects on consumers			Effects on workers				
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation				1 mg/m3				1 mg/m3

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

**8.2. Exposure controls**

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

**HAND PROTECTION**

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

**SKIN PROTECTION**

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap

**RADIATOR WASHER**

and water after removing protective clothing.

**EYE PROTECTION**

Wear airtight protective goggles (see standard EN 166).

**RESPIRATORY PROTECTION**

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

**ENVIRONMENTAL EXPOSURE CONTROLS**

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

**SECTION 9. Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Appearance	liquid
Colour	light yellow
Odour	typical
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	Not available
Boiling range	Not available
Flash point	Not available
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	1,03
Solubility	soluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

**9.2. Other information**

Information not available

**SECTION 10. Stability and reactivity****10.1. Reactivity**

There are no particular risks of reaction with other substances in normal conditions of use.

**10.2. Chemical stability**

The product is stable in normal conditions of use and storage.

**SODIUM HYDROXIDE**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

No hazardous reactions are foreseeable in normal conditions of use and storage.

**SODIUM HYDROXIDE**

- Emits hydrogen by reaction with metals.
- Exothermic reaction with strong acids.
- Risk of violent reaction.
- Risk of explosion.
- Reacts violently with water.

**10.4. Conditions to avoid**

None in particular. However the usual precautions used for chemical products should be respected.

**TECHNICAL BENZOIC ACID**

Keep away from heat, sparks and flame. Prevent the formation of dust clouds.

**SODIUM HYDROXIDE**

Avoid exposure to: air,moisture,sources of heat.

- Far from direct sunlight.
- To avoid thermal decomposition, do not overheat.
- Exposure to humidity.
- Freezing

**10.5. Incompatible materials****TECHNICAL BENZOIC ACID**

Strong oxidizing materials, reducing agents, bases, humidity, metals.

#### SODIUM HYDROXIDE

Incompatible with: strong acids, ammonia, zinc, lead, aluminium, water, flammable liquids.

Metals, oxidizing agents, water, acids, aluminum, other light metals and their alloys.

#### 10.6. Hazardous decomposition products

##### TECHNICAL BENZOIC ACID

Heat: → phenol, benzene. In case of fire, consult firefighting measures

## SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

#### 11.1. Information on toxicological effects

##### Metabolism, toxicokinetics, mechanism of action and other information

Information not available

##### Information on likely routes of exposure

Information not available

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

Information not available

##### Interactive effects

Information not available

##### ACUTE TOXICITY

LC50 (Inhalation) of the mixture:

Not classified (no significant component)

LD50 (Oral) of the mixture:

>2000 mg/kg

LD50 (Dermal) of the mixture:

Not classified (no significant component)

**RADIATOR WASHER****SODIUM HYDROXIDE**

LD50 (Oral) 1350 mg/kg Rat

LD50 (Dermal) 1350 mg/kg Rat

**TECHNICAL BENZOIC ACID**

Method: Equivalent or similar to OECD 401

Reliability: 2

Species: Mouse (Swiss albino; male / female)

Route of exposure: Oral

Results: LD50 = 2250 mg / kg bw

Method: Not indicated

Reliability: 2

Species: Rat (Spartan; male / female)

Route of exposure: Inhalation (dust)

Results: LC50> 12200 mg / m3 air

Method: Not indicated

Reliability: 2

Species: Rabbit (New Zealand White; male / female)

Route of exposure: Dermal

Results: LD50> 2000 mg / kg bw

**SKIN CORROSION / IRRITATION**

Causes skin irritation

**TECHNICAL BENZOIC ACID**

Method: Not indicated

Reliability: 2

Species: guinea pig (Hartley), rat (Sprague-Dawley), mouse (ICR)

Route of exposure: Dermal

Results: Irritating

**SODIUM HYDROXIDE**

Method: Not indicated

Reliability: 1

Human species

Route of exposure: Dermal

Results: Irritating

Bibliographic reference: York M, Griffiths E, Whittle E and Basketter DA, Evaluation of a human patch test for the identification and classification of skin irritation potential (1996)

**SERIOUS EYE DAMAGE / IRRITATION**

Causes serious eye damage

**TECHNICAL BENZOIC ACID**

Method: EU Method B.5

Reliability: 1

Species: Rabbit (New Zealand White)

Route of exposure: Ocular

Results: Corrosive

**RADIATOR WASHER****SODIUM HYDROXIDE**

Method: OECD 405

Reliability: 1

Species: Rabbit (New Zealand White)

Route of exposure: Ocular

Results: Irritating

Bibliographic reference: Jacobs GA, OECD Eye Irritation Tests on Sodium Hydroxide (1992)

**RESPIRATORY OR SKIN SENSITISATION**

Does not meet the classification criteria for this hazard class

**SODIUM HYDROXIDE**

Method: According to the OECD SIDS document for sodium hydroxide

Reliability: 2

Species: Human (male)

Route of exposure: Dermal

Results: Not sensitizing

Bibliographic reference: Park et al., Journal of Dermatological Science, 10, 159-165 (1995).

Skin sensitization

**TECHNICAL BENZOIC ACID**

Method: Equivalent or similar to Kimber et al., 1989

Reliability: 2

Species: Mouse (CBA; female)

Route of exposure: Dermal

Results: Not sensitizing

**GERM CELL MUTAGENICITY**

Does not meet the classification criteria for this hazard class

**TECHNICAL BENZOIC ACID**

Method: Equivalent or similar to OECD 487 in vitro test

Reliability: 2

Species: Lymphoma of the mouse

Results: Negative with and without metabolic activation

**CARCINOGENICITY**

Does not meet the classification criteria for this hazard class

**REPRODUCTIVE TOXICITY**

Does not meet the classification criteria for this hazard class

Adverse effects on sexual function and fertility

**TECHNICAL BENZOIC ACID**

Method: Equivalent or similar to OECD 416

Reliability: 2

Species: Rat (male / female)

Route of exposure: Oral

Results: NOEL (fertility)&gt; 1%

**RADIATOR WASHER**STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

## TECHNICAL BENZOIC ACID

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

## 1-HEPTANOL, 2-PROPYL, 7EO

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

## SODIUM HYDROXIDE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

STOT - REPEATED EXPOSURE

May cause damage to organs

## TECHNICAL BENZOIC ACID

Method: Equivalent or similar to OECD 412

Reliability: 1

Species: Rat (Sprague-Dawley; male / female)

Route of exposure: Inhalation (dust)

Results: NOAEC <= 25 mg / m<sup>3</sup> air

Method: EPA OPP 82-2

Reliability: 1

Species: Rabbit (New Zealand White; male / female)

Route of exposure: Dermal

Results: NOAEL > 2500 mg / kg bw / day

## 1-HEPTANOL, 2-PROPYL, 7EO

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for prolonged or repeated exposure.

## SODIUM HYDROXIDE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for prolonged or repeated exposure.

Target organ

## TECHNICAL BENZOIC ACID

Lungs

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

**SECTION 12. Ecological information**

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

#### 12.1. Toxicity

##### TECHNICAL BENZOIC ACID

LC50 - for Fish	44,6 mg/l/96h
EC50 - for Crustacea	100 mg/l/48h
EC50 - for Algae / Aquatic Plants	33,1 mg/l/72h
EC10 for Algae / Aquatic Plants	3,4 mg/l/72h
Chronic NOEC for Algae / Aquatic Plants	3,4 mg/l

#### 12.2. Persistence and degradability

##### TECHNICAL BENZOIC ACID

Easily degradable in water, 89% in 21 days.

##### SODIUM HYDROXIDE

Solubility in water > 10000 mg/l

Degradability: information not available

#### 12.3. Bioaccumulative potential

Information not available

#### 12.4. Mobility in soil

Information not available

#### 12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

#### 12.6. Other adverse effects

Information not available

## SECTION 13. Disposal considerations

#### 13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

##### CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

##### TECHNICAL BENZOIC ACID

**RADIATOR WASHER**

Waste must be disposed of in accordance with national and local environmental regulations. Controlled biodegradation in wastewater treatment is possible.

**SODIUM HYDROXIDE**

- Dilute with plenty of water.
- Solutions with a high pH value must be neutralized before discharging.
- Neutralize with acid.
- In accordance with local and national regulations.

**SECTION 14. Transport information**

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

**14.1. UN number**

Not applicable

**14.2. UN proper shipping name**

Not applicable

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

Not applicable

**14.4. Packing 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 and the IBC Code**

Information not relevant

**SECTION 15. Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Seveso Category - Directive 2012/18/EC: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product

Point 3

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

**15.2. Chemical safety assessment**

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

**SECTION 16. Other information**

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

**Acute Tox. 4**

Acute toxicity, category 4

**STOT RE 1**

Specific target organ toxicity - repeated exposure, category 1

**RADIATOR WASHER**

<b>STOT RE 2</b>	Specific target organ toxicity - repeated exposure, category 2
<b>Skin Corr. 1A</b>	Skin corrosion, category 1A
<b>Eye Dam. 1</b>	Serious eye damage, category 1
<b>Skin Irrit. 2</b>	Skin irritation, category 2
<b>H302</b>	Harmful if swallowed.
<b>H372</b>	Causes damage to organs through prolonged or repeated exposure.
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H318</b>	Causes serious eye damage.
<b>H315</b>	Causes skin irritation.

**LEGEND:**

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

**GENERAL BIBLIOGRAPHY**

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
  2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
  3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
  4. Regulation (EU) 2015/830 of the European Parliament
  5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
  6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
  7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
  8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
  9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
  10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
  11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
  12. Regulation (EU) 2016/1179 (IX Atp. CLP)
  13. Regulation (EU) 2017/776 (X Atp. CLP)
  14. Regulation (EU) 2018/669 (XI Atp. CLP)
  15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
  16. Regulation (EU) 2019/521 (XII Atp. CLP)
- The Merck Index. - 10th Edition

**RADIATOR WASHER**

- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

**Note for users:**

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

Product's classification is based on the calculation methods set out in Annex I of the CLP Regulation, unless otherwise indicated in sections 11 and 12.

The data for evaluation of chemical-physical properties are reported in section 9.