acc. to Regulation (EC) No. 1907/2006 (REACH)

Nitric acid 30 %, pure



article number: 1PPL Version: 1.0 en

date of compilation: 2022-06-13

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

1.1	Product identifier							
	Identification of the substance	Nitric acid 30 %, pure						
	Article number	1PPL						
	EC number	[231-714-2]						
	CAS number	[7697-37-2]						
4.2	Delevery tide wiffeed was a fitter such stars							

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

Relevant identified uses:

Uses advised against:

Laboratory chemical Laboratory and analytical use

Do not use for squirting or spraying. Do not use for products which come into direct contact with the skin. Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG Schoemperlenstr, 3-5 D-76185 Karlsruhe Germany

Telephone:+49 (0) 721 - 56 06 0 Telefax: +49 (0) 721 - 56 06 149 e-mail: sicherheit@carlroth.de Website: www.carlroth.de

Competent person responsible for the safety data :Department Health, Safety and Environment sheet:

e-mail (competent person):

sicherheit@carlroth.de

1.4 **Emergency telephone number**

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Service City Hospital	Dudley Rd	B187QH Birmingham	844 892 0111	

SECTION 2: Hazards identification

Classification of the substance or mixture 2.1

Classification acc. to GHS

acc. to Regulation (EC) No. 1907/2006 (REACH)

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Nitric acid 30 %, pure

article number: 1PPL

Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
2.16	Substance or mixture corrosive to metals	1	Met. Corr. 1	H290
3.1I	Acute toxicity (inhal.)	3	Acute Tox. 3	H331
3.2	Skin corrosion/irritation	1A	Skin Corr. 1A	H314
3.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318

Supplemental hazard information

Code	Supplemental hazard information
EUH071	corrosive to the respiratory tract

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

2.2 Label elements

Labelling

Signal word Danger

Pictograms

GHS05, GHS06



Hazard statements

H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H331	Toxic if inhaled

Precautionary statements

Precautionary statements - prevention

P260	Do not breathe mist/vapours/spray
P280	Wear protective gloves/protective clothing/eye protection/face protection

Precautionary statements - response

P301+P330+P331 P303+P361+P353	IF SWALLOWED: rinse mouth. Do NOT induce vomiting IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin
P305+P351+P338	with water [or shower] IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310	Immediately call a POISON CENTER/doctor

Supplemental hazard information

EUH071 Corrosive to the respiratory tract.

Hazardous ingredients for labelling: Nitric acid ...% [C ≤ 70 %]

acc. to Regulation (EC) No. 1907/2006 (REACH)

Nitric acid 30 %, pure

article number: 1PPL

2.3 Other hazards

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 **Substances**

not relevant (mixture)

3.2 **Mixtures**

Description of the mixture

Name of sub- stance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Nitric acid% [C ≤ 70 %]	CAS No 7697-37-2 EC No 231-714-2	30	Ox. Liq. 3 / H272 Met. Corr. 1 / H290 Acute Tox. 3 / H331 Skin Corr. 1A / H314 Eye Dam. 1 / H318 EUH071		B(a) GHS-HC IOELV

Notes

B(a): The classification refers to an aqueous solution GHS-HC: Harmonic classification (the classification of the substance corresponds to the entry in the list according to 1272/ 2008/EC, Annex VI)

IOELV: Substance with a community indicative occupational exposure limit value

Name of sub- stance	Identifier	Specific Conc. Limits	M-Factors	ΑΤΕ	Exposure route
Nitric acid% [C ≤ 70 %]	CAS No 7697-37-2 EC No 231-714-2	Ox. Liq. 3; H272: C ≥ 65 % Skin Corr. 1A; H314: C ≥ 20 % Skin Corr. 1B; H314: 5 % ≤ C < 20 %	-	2,65 ^{mg} /ı/4h	inhalation: va- pour

For full text of abbreviations: see SECTION 16

SECTION 4: First aid measures

4.1 **Description of first aid measures**



General notes

Take off immediately all contaminated clothing. Self-protection of the first aider.

Following inhalation

Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration.

Following skin contact

After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.



acc. to Regulation (EC) No. 1907/2006 (REACH)

Nitric acid 30 %, pure



article number: **1PPL**

Following ingestion

Rinse mouth immediately and drink plenty of water. Call a physician immediately. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

4.2 Most important symptoms and effects, both acute and delayed

Corrosion, Gastric perforation, Risk of serious damage to eyes, Risk of blindness, Cough, Dyspnoea, Pulmonary oedema

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Non-combustible.

Hazardous combustion products

In case of fire may be liberated: Nitrogen oxides (NOx)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

6.2 Environmental precautions

Keep away from drains, surface and ground water. The product is an acid. Before discharge into sewage plants the product normally needs to be neutralised.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

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Nitric acid 30 %, pure



article number: 1PPL

Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provide adequate ventilation as well as local exhaustion at critical locations. Use extractor hood (laboratory). Handle and open container with care. Clear contaminated areas thoroughly.

Advice on general occupational hygiene

Wash hands before breaks and after work.

7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Keep only in original container. May cause decomposition by long-term light influence.

Incompatible substances or mixtures

Observe hints for combined storage.

Protect against external exposure, such as

UV-radiation/sunlight, contact with air/oxygen

Consideration of other advice:

Store locked up.

Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Cou ntr y	Name of agent	CAS No	Identi- fier	TW A [pp m]	TWA [mg/ m³]	STE L [pp m]	STEL [mg/ m³]	Ceil ing- C [pp m]	Ceil- ing-C [mg/ m³]	Nota- tion	Source
EU	nitric acid	7697-37- 2	IOELV			1	2,6				2006/15/ EC
GB	nitric acid	7697-37- 2	WEL			1	2,6				EH40/ 2005

acc. to Regulation (EC) No. 1907/2006 (REACH)

Nitric acid 30 %, pure

article number: 1PPL

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Notation	
Ceiling-C	Ceiling value is a limit value above which exposure should not occur
STEL	Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15- minute period (unless otherwise specified)
TWA	Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection. Wear face protection.

Skin protection



hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

• type of material

FKM (fluoro rubber), Butyl caoutchouc (butyl rubber)

material thickness

0,7mm

• breakthrough times of the glove material

>480 minutes (permeation: level 6)

other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: NO-P3 (against nitrous gases and particles, colour code: Blue/White).

Environmental exposure controls

Keep away from drains, surface and ground water.

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Nitric acid 30 %, pure

article number: 1PPL

9.1

SECTION 9: Physical and chemical properties

Information on basic physical and chemical pro	perties
Physical state	liquid
Colour	colourless - light yellow
Odour	stinging
Odour threshold	0,75 ^{mg} / _{m³}
Melting point/freezing point	-19 °C
Boiling point or initial boiling point and boiling range	>100 °C
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	not determined
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	<1
Kinematic viscosity	0,6957 ^{mm²} / _s at 20 °C
Dynamic viscosity	0,7 – 0,8 mPa s at 20 °C
Solubility(ies)	
Water solubility	miscible in any proportion
Partition coefficient	
Partition coefficient n-octanol/water (log value):	not relevant (inorganic)
Vapour pressure	23 hPa at 20 °C
Density and/or relative density	
Density	1,15 – 1,39 ^g / _{cm³} at 20 °C
Relative vapour density	information on this property is not available
Particle characteristics	not relevant (liquid)
Other safety parameters	
Oxidising properties	none
Other information	
Information with regard to physical hazard classes:	
Corrosive to metals	category 1: corrosive to metals

9.2



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Nitric acid 30 %, pure

article number: 1PPL

Other safety characteristics:

Miscibility

completely miscible with water

SECTION 10: Stability and reactivity

10.1 Reactivity

Substance or mixture corrosive to metals.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: Acetone, Aldehydes, Alkali (lye), Alkali metals, Alcohols, Formic acid, Amines, Ammonia (NH3), Aniline, Combustible materials, Dichloromethane, Alkaline earth metal, Acetic anhydride, Hydrazine, Hydrocarbons, Metal powder, Nitriles, Reducing agents, Strong alkali, Hydrogen peroxide,

=> Explosive properties

10.4 Conditions to avoid

UV-radiation/sunlight. Keep away from heat.

10.5 Incompatible materials

different metals

Release of flammable materials with

Metals, Light metals (due to the release of hydrogen in an acid/alkaline medium)

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to GHS

Acute toxicity

Toxic if inhaled.

Acute toxicity estimate (ATE) of comp	onents of the i	mixture	
Name of substance	CAS No	Exposure route	ΑΤΕ
Nitric acid% [C ≤ 70 %]	7697-37-2	inhalation: vapour	2,65 ^{mg} / _l /4h

acc. to Regulation (EC) No. 1907/2006 (REACH)

Nitric acid 30 %, pure



article number: 1PPL

Acute toxicity of components of the mixture						
	Name of substance	CAS No	Exposure route	Endpoint	Value	Species
	Nitric acid% [C ≤ 70 %]	7697-37-2	inhalation: va- pour	LC50	>2,65 ^{mg} /ı/4h	rat

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects)

• If in eyes

causes burns, Causes serious eye damage, risk of blindness

• If inhaled

corrosive to the respiratory tract, cough, Dyspnoea, pulmonary oedema

• If on skin

causes severe burns, causes poorly healing wounds

• Other information

none

11.2 Endocrine disrupting properties

None of the ingredients are listed.

11.3 Information on other hazards

There is no additional information.

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Nitric acid 30 %, pure

article number: **1PPL**

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Biodegradation

The methods for determining the biological degradability are not applicable to inorganic substances.

- **12.2 Process of degradability** Data are not available.
- **12.3 Bioaccumulative potential** Data are not available.
- 12.4 Mobility in soil
 - Data are not available.
- **12.5 Results of PBT and vPvB assessment** Data are not available.
- **12.6 Endocrine disrupting properties** None of the ingredients are listed.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Waste catalogue ordinance (Germany).

13.3 Remarks

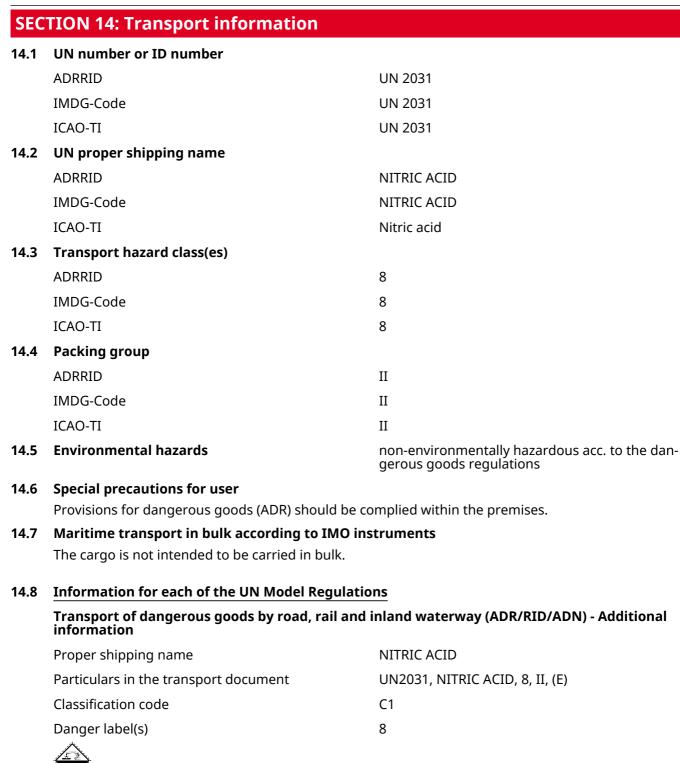
Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.



acc. to Regulation (EC) No. 1907/2006 (REACH)

Nitric acid 30 %, pure

article number: 1PPL



·	
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	Е



Safety data sheet Safety data sheet acc. to Regulation (EC) No. 1907/2006 (REACH)

Nitric acid 30 %, pure



article	num	her	1 D D I	
article	num	Der.	IFFL	

Hazard identification No	80
Emergency Action Code	2R
Regulations concerning the International C information	arriage of Dangerous Goods by Rail (RID)Additional
Classification code	C1
Danger label(s)	8
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Hazard identification No	80
International Maritime Dangerous Goods C	ode (IMDG) - Additional information
Proper shipping name	NITRIC ACID
Particulars in the shipper's declaration	UN2031, NITRIC ACID, 8, II
Marine pollutant	-
Danger label(s)	8
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-A, S-B
Stowage category	D
Segregation group	1 - Acids
International Civil Aviation Organization (I	CAO-IATA/DGR) - Additional information
Proper shipping name	Nitric acid
Particulars in the shipper's declaration	UN2031, Nitric acid, 8, II
Danger label(s)	8
Special provisions (SP)	A212
Excepted quantities (EQ)	EO

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Nitric acid 30 %, pure

article number: 1PPL

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Seveso Directive

2012/	18/EU (Seveso III)			
Νο	Dangerous substance/hazard categories	Qualifying quantity plication of lower quire	(tonnes) for the ap- and upper-tier re- ments	Notes
H2	acute toxic (cat. 2 + cat. 3, inhal.)	50	200	41)

Notation

41)

- Category 2, all exposure routes - category 3, inhalation exposure route

Deco-Paint Directive

0 ^g / _l	VOC content	0 % 0 ^g / _l
-------------------------------	-------------	--------------------------------------

Industrial Emissions Directive (IED)

VOC content	0 %
VOC content (Water content was discounted)	0 ^g / _l

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

Regulation concerning the establishment of a European Pollutant Release and Transfer **Register (PRTR)**

none of the ingredients are listed

Water Framework Directive (WFD)

none of the ingredients are listed

Regulation on the marketing and use of explosives precursors

Explosives precursors which a	are subject	to restrictions			
Name of substance	CAS No	Type of registration	Remarks	Limit value	Upper limit value for the pur- pose of licensing under Article 5(3)
Nitric acid% [C ≤ 70 %]	7697-37-2	Annex I		3 % w/w	10 % w/w

Legend

annex I Substances which shall not be made available to members of the general public on their own, or in mixtures or substances including them, except if the concentration is equal to or lower than the limit values set out below

Page 13 / 16



acc. to Regulation (EC) No. 1907/2006 (REACH)

Nitric acid 30 %, pure



article number: **1PPL**

Additional statements

If the product is passed on to third parties, in accordance with Article 7 "Notification of the supply chain" of Regulation EU 2019/1148, the information obligation is subject to the entire supply chain and all other provisions mentioned in Article 7 on restricted and regulated raw materials.

Regulation on drug precursors

none of the ingredients are listed

Regulation on substances that deplete the ozone layer (ODS)

none of the ingredients are listed

Regulation concerning the export and import of hazardous chemicals (PIC)

none of the ingredients are listed

Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National inventories

Inventory	Status
AIIC	all ingredients are listed
DSL	all ingredients are listed
IECSC	all ingredients are listed
ECSI	all ingredients are listed
REACH Reg.	all ingredients are listed
CSCL-ENCS	all ingredients are listed
KECI	all ingredients are listed
INSQ	all ingredients are listed
NZIoC	all ingredients are listed
PICCS	all ingredients are listed
CICR	not all ingredients are listed
TCSI	all ingredients are listed
TSCA	all ingredients are listed
	AIIC DSL IECSC ECSI REACH Reg. CSCL-ENCS KECI INSQ NZIOC PICCS CICR TCSI

Legend

Legenu	
AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

acc. to Regulation (EC) No. 1907/2006 (REACH)

Nitric acid 30 %, pure



article number: 1PPL

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2006/15/EC	Commission Directive establishing a second list of indicative occupational exposure limit values in imple mentation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de naviga- tion intérieures (European Agreement concerning the International Carriage of Dangerous Goods by In land Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concern ing the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances
Ceiling-C	Ceiling value
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-li- cence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Na tions
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
IOELV	Indicative occupational exposure limit value
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 lethality during a specified time interval
Met. Corr.	Substance or mixture corrosive to metals
NLP	No-Longer Polymer
Ox. Liq.	Oxidising liquid

acc. to Regulation (EC) No. 1907/2006 (REACH)



Nitric acid 30 %, pure

article number: **1PPL**

Abbr.	Descriptions of used abbreviations
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regula- tions concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties. The classification is based on tested mixture. Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H331	Toxic if inhaled.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.