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

1.1 Product identifier

ortho-Phosphoric acid 85%, Ph. Eur., NF (120451)

ortho-Phosphoric acid 85% ; CAS No. : 7664-38-2 ; EC No. : 231-633-2 ; Index No. : 015-011-00-6 ; REACH No. : 01-2119485924-24-XXXX

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

Relevant identified uses

For manufacturing, processing, laboratory or repacking use only.

Uses advised against

Uses other than those recommended.

1.3 Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor)

DC Fine Chemicals Ltd

Street : 88 Hill Top

Postal code/City : NW11 6DY London United Kingdom

Telephone : +44 (0)20 7586 6800

Telefax : +44 (0)20 7504 1701

Information contact : info@dcfinechemicals.com

1.4 Emergency telephone number

(Only available during office hours; Monday-Friday; 08:00-18:00)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation GHS

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

Met. Corr. 1 ; H290 - Corrosive to metals : Category 1 ; May be corrosive to metals.
Acute Tox. 4 ; H302 - Acute toxicity (oral) : Category 4 ; Harmful if swallowed.
Skin Corr. 1B ; H314 - Skin corrosion/irritation : Category 1B ; Causes severe skin burns and eye damage.
Eye Dam. 1 ; H318 - Serious eye damage/eye irritation : Category 1 ; Causes serious eye damage.

2.2 Label elements

Labelling according to Regulation GHS

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

Hazard pictograms

Corrosion (GHS05) · Exclamation mark (GHS07)

Signal word

DANGER

Hazard statements

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H302	Harmful if swallowed.

Precautionary statements

P234	Keep only in original packaging.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P310	Immediately call a POISON CENTER/doctor.
P321	Specific treatment (see on this label).
P405	Store locked up.
P406	Store in a corrosion resistant container with a resistant inner liner.

2.3 Other hazards

This substance/mixture contains no components considered to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name : ortho-Phosphoric acid 85%

Index No. : 015-011-00-6

EC No. : 231-633-2

REACH No. : 01-2119485924-24-XXXX

CAS No. : 7664-38-2

Purity : 100 % [mass]

SECTION 4: First aid measures

4.1 Description of first aid measures

Remove contaminated, saturated clothing immediately. After contact with skin, wash immediately with plenty of water and soap. After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. If accidentally ingested, seek immediate medical attention, NEVER induce vomiting. Remove victim out of the danger area. When in doubt or if symptoms are observed, get medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Contact with eyes or skin can cause burns; ingestion or inhalation can cause internal damage, if this occurs immediate medical assistance is required. Never give anything by mouth to an unconscious person or a person with cramps.

4.3 Indication of any immediate medical attention and special treatment needed

Request immediate medical attention. Never administer anything orally to persons who are unconscious. Do not induce vomiting. If the person vomits, clear the respiratory tract. Cover the affected area with a dry sterile bandage. Protect the affected area from pressure or friction.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Extinguisher powder or CO2. In case of more serious fires, also alcohol-resistant foam and water spray.

Unsuitable extinguishing media

Do not use a direct stream of water to extinguish. In the presence of electrical voltage, you cannot use water or foam as extinguishing media.

5.2 Special hazards arising from the substance or mixture

Special risks: Fire can cause thick, black smoke. As a result of thermal decomposition, dangerous products can form: carbon monoxide, carbon dioxide. Exposure to combustion or decomposition products can be harmful to your health.

5.3 Advice for firefighters

Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account. Prevent the products used to fight the fire from going into drains, sewers, or waterways. Wear a self-contained breathing apparatus and chemical protective clothing. Do not inhale explosion and combustion gases.

5.4 Additional information

Fire protection equipment: According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and boots.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Wear a self-contained breathing apparatus and chemical protective clothing.

For emergency responders

Eliminate possible ignition points and ventilate the area. No smoking. Avoid breathing fumes.For exposure control and individual protection measures, see section 8.

6.2 Environmental precautions

Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities. Retain contaminated washing water and dispose it.

6.3 Methods and material for containment and cleaning up

For containment

Collect in closed and suitable containers for disposal.

For cleaning up

The contaminated area should be cleaned up immediately with: Water Soak up inert absorbent and dispose as waste requiring special attention. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

6.4 Reference to other sections

Reference to other sections Disposal: see section 13 Personal protection equipment: see section 8

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures

When using do not eat, drink, smoke, sniff. Wear personal protection equipment (refer to section 8).

Measures to prevent aerosol and dust generation
Use only in well-ventilated areas. Do not breathe gas/fumes/vapour/spray. Do not breathe dust.

Environmental precautions
Use appropriate container to avoid environmental contamination.

Specific requirements or handling rules
Handle and open container with care.

Advices on general occupational hygiene
Take care for general good hygiene and housekeeping.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions
Storage temperature :
Keep in a cool, well-ventilated place.

Requirements for storage rooms and vessels
Only use containers specifically approved for the substance/product.

Hints on joint storage
Store at least 3 metres apart from: Chemicals/products that react together readily

Storage class (TRGS 510) : 8B

7.3 Specific end use(s)
None

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values
ortho-Phosphoric acid 85% ; CAS No. : 7664-38-2

Limit value type (country of origin) :	TWA (EC)
Limit value :	1 mg/m³ / 8 h
Version :	
Limit value type (country of origin) :	TWA (EC)
Limit value :	2 mg/m³ / 15 min
Version :	

DNEL-/PNEC-values
DNEL/DMEL

ortho-Phosphoric acid 85% ; CAS No. : 7664-38-2

Limit value type :	DNEL Consumer (local)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	0.36 mg/m³
Limit value type :	DNEL Consumer (systemic)
Exposure route :	Oral

Exposure frequency :	Long-term
Limit value :	0.1 mg/kg
Limit value type :	DNEL Consumer (systemic)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	4.57 mg/m³
Limit value type :	DNEL worker (local)
Exposure route :	Inhalation
Exposure frequency :	Short-term
Limit value :	2 mg/m³
Limit value type :	DNEL worker (local)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	1 mg/m³
Limit value type :	DNEL worker (systemic)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	10.7 mg/m³

PNEC

ortho-Phosphoric acid 85% ; CAS No. : 7664-38-2

Limit value type :	PNEC (Aquatic, freshwater)
Exposure route :	Water (Including sewage plant)
Limit value :	100 µg/l
Limit value type :	PNEC (Aquatic, intermittent release)
Exposure route :	Water (Including sewage plant)
Limit value :	1000 µg/l
Limit value type :	PNEC (Aquatic, marine water)
Exposure route :	Water (Including sewage plant)
Limit value :	10 µg/l
Limit value type :	PNEC (Sediment, freshwater)
Exposure route :	Water (Including sewage plant)
Limit value :	392 µg/kg
Limit value type :	PNEC (Sediment, marine water)
Exposure route :	Water (Including sewage plant)
Limit value :	39.2 µg/kg
Limit value type :	PNEC (Soil)
Exposure route :	Soil
Limit value :	19.7 µg/kg
Limit value type :	PNEC (Sewage treatment plant)
Exposure route :	Water (Including sewage plant)
Limit value :	100 mg/l

8.2 Exposure controls

Only wear fitting, comfortable and clean protective clothing.

Personal protection equipment

Eye/face protection

Eye glasses with side protection Face protection shield EN 166

Skin protection

Hand protection

Tested protective gloves must be worn EN ISO 374

Body protection

For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes). Wash contaminated clothing prior to re-use.

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Particle filter device (EN 143).

Thermal hazards

No information available.

Environmental exposure controls

No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : Liquid

Safety characteristics

Melting point/freezing point :	(1013 hPa)	21	°C
Initial boiling point and boiling range :	(1013 hPa)	158	°C
Decomposition temperature :	(1013 hPa)	300	°C
Flash point :		No data available	
Auto-ignition temperature :		No data available	
Lower explosion limit :		No data available	
Upper explosion limit :		No data available	
Vapour pressure :	(20 °C)	1.5	mm Hg
Density :	(20 °C)	1.71	g/cm^3
Solvent separation test :	(20 °C)	not applicable	
Water solubility :	(20 °C)	850	g/l
Fat solubility :	(20 °C)	No data available.	

pH :	(20 °C / 100 g/l)	<	0.5	
log P O/W :			-0.77	
Flow time :	(20 °C)		No data available	DIN-cup 4 mm
Viscosity :	(20 °C)		31	mPa*s
Relative vapour density :	(20 °C)		3.4	(air = 1)
Evaporation rate :			No data available	
Flammable solids :	No data available.			
Flammable gases :	No data available.			
Explosive properties :	No data available.			

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

The product does not present hazards by their reactivity.

10.2 Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature. Safe handling: see section 7

10.3 Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4 Conditions to avoid

Avoid any improper handling.

10.5 Incompatible materials

Keep away from oxidising agents and from highly alkaline or acidic materials in order to prevent exothermic reactions.

10.6 Hazardous decomposition products

Depending on conditions of use, can be generated the following products: Corrosive vapors or gases.

SECTION 11: Toxicological information

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

Acute toxicity

Acute oral toxicity

Parameter :	LD50 (ortho-Phosphoric acid 85% ; CAS No. : 7664-38-2)
Exposure route :	Oral
Species :	Rat
Effective dose :	1.25 g/kg

Acute dermal toxicity

Parameter :	LD50 (ortho-Phosphoric acid 85% ; CAS No. : 7664-38-2)
Exposure route :	Dermal
Species :	Rabbit
Effective dose :	2.74 g/kg

Acute inhalation toxicity

Parameter :	LC50 (ortho-Phosphoric acid 85% ; CAS No. : 7664-38-2)

Exposure route :	Inhalation
Species :	Rat
Effective dose :	> 0.85 mg/l
Exposure time :	1 h

Corrosion

Skin corrosion/irritation

No information available.

Serious eye damage/eye irritation

No information available.

Respiratory or skin sensitisation

No information available.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

No information available.

Germ cell mutagenicity

No information available.

Reproductive toxicity

No information available.

STOT-single exposure

No information available.

STOT-repeated exposure

No information available.

Aspiration hazard

No information available.

11.2 Information on other hazards

No information available.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity

Acute (short-term) fish toxicity

Parameter :	LC50 (ortho-Phosphoric acid 85% ; CAS No. : 7664-38-2)
Species :	Gambusia affinis (Mosquito fish)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	138 mg/l
Exposure time :	96 h

Toxicity to other aquatic plants/organisms

Parameter :	EC50 (ortho-Phosphoric acid 85% ; CAS No. : 7664-38-2)
Species :	Activated sludge
Evaluation parameter :	Toxicity to other aquatic plants/organisms
Effective dose :	270 mg/l

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

Parameter : Log KOW (ortho-Phosphoric acid 85% ; CAS No. : 7664-38-2)
Partition coefficient n-octanol/water (log value)
Partition coefficient n-octanol/water (log value)
Value : -0.77

12.4 Mobility in soil
No information available.

12.5 Results of PBT and vPvB assessment
This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

12.6 Endocrine disrupting properties
No information available.

12.7 Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Follow the provisions of Directive 2008/98/EC regarding waste management.

Product/Packaging disposal

Waste treatment options
Recycle according to official regulations. Evidence for disposal must be provided.

Appropriate disposal / Product
Dispose of waste according to applicable legislation.

Appropriate disposal / Package
Non-contaminated packages must be recycled or disposed of. Contaminated packages must be completely emptied and can be re-used following proper cleaning. Packing which cannot be properly cleaned must be disposed of. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

14.1 UN number
UN 1805

14.2 UN proper shipping name
Land transport (ADR/RID)
PHOSPHORIC ACID, SOLUTION

Sea transport (IMDG)
PHOSPHORIC ACID, SOLUTION

Air transport (ICAO-TI / IATA-DGR)
PHOSPHORIC ACID, SOLUTION

14.3 Transport hazard class(es)
Land transport (ADR/RID)

Class(es) :	8
Classification code :	C1
Hazard identification number (Kemler No.) :	80

Tunnel restriction code : E
Special provisions : LQ 5 l · E 1
Hazard label(s) : 8

Sea transport (IMDG)
Class(es) : 8
EmS-No. : F-A / S-B
Special provisions : LQ 5 l · E 1 · IMDG-Code segregation group 1 - Acids · IMDG-Code segregation group 36 · IMDG-Code segregation group 49
Hazard label(s) : 8

Air transport (ICAO-TI / IATA-DGR)
Class(es) : 8
Special provisions : E 1
Hazard label(s) : 8

14.4 Packing group
III

14.5 Environmental hazards
Land transport (ADR/RID) : No
Sea transport (IMDG) : No
Air transport (ICAO-TI / IATA-DGR) : No

14.6 Special precautions for user
Hazard label(s) :

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
No information available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Safety Data Sheet According to Regulation (EC) No. 1907/2006 (REACH) Classification according to Regulation (EC) No 1272/2008 [CLP] according to Regulation (EU) No. 2020/878

EU legislation
Authorisations and/or restrictions on use
Restrictions on use
Regulation (EC) No. 1907/2006 (REACH), Annex XVII (restrictions)
Use restriction according to REACH annex XVII, no. : 3

National regulations
Water hazard class
Class : nwg (Non-hazardous to water)

15.2 Chemical Safety Assessment
No information available.

SECTION 16: Other information

16.1 Indication of changes

15. Water hazard class

16.2 Abbreviations and acronyms

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
ASTM:	ASTM International, originally known as American Society for Testing and Materials (ASTM)
EINECS:	European Inventory of Existing Commercial Chemical Substances
EC50:	Effective Concentration 50 (Maximum Effective Concentration for 0% of Individuals)
LC50:	Lethal Concentration 50 (Lethal Concentration for 50% of Individuals)
IC50:	Inhibitor Concentration 50 (Inhibitory Concentration for 50% of Individuals)
NOEL:	No Observed Effect Level (Maximum dose without effect)
DNEL:	Derived No Effect Level (Derived no-effect dose)
DMEL:	Derived Minimum Effect Level (Derived dose of minimal effect)
CLP:	Classification, Labelling and Packaging
CSR:	Chemical Safety Report
LD50:	Lethal Dose 50 (Lethal Dose for 50% of Individuals)
IATA:	International Air Transport Association
ICAO:	International Civil Aviation Organization
Codice IMDG:	International Maritime Dangerous Goods code
PBT:	Persistent, bioaccumulative and toxic
RID:	Regulations concerning the international rail transport of Dangerous Goods
STEL:	Short term exposure limit
TLV:	Threshold limit value
TWA:	Time Weighted Average
UE:	European Union
vPvB:	Very persistent very bioaccumulative
N.D.:	Uvailable
N.A.:	Not applicable
VwVwS.:	Text of Administrative Regulation on the Classification of Substances hazardous to waters into Water Hazard Classes

16.3 Key literature references and sources for data

None

16.4 Relevant H- and EUH-phrases (Number and full text)

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

16.5 Training advice

None

16.6 Additional information

None

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily

valid for the new made-up material.