



## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
Issue date: 9/1/2025 Version: 1.0

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

#### 1.1. Product identifier

Product form : Substance  
Trade name : ORLEsop  
EC-No. : 231-915-5  
CAS-No. : 7778-80-5  
REACH registration No. : 01-2119489441-34-0013  
Formula : H<sub>2</sub>O<sub>4</sub>S<sub>2</sub>K  
Product group : Trade product

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

##### Relevant identified uses

Main use category : Manufacture of fertilisers and nitrogen compounds  
Industrial/Professional use spec : Manufacture of glass and glass products

##### Uses advised against

Restrictions on use : Other uses

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

ORLEN Południe S.A.  
Fabryczna 22  
32-540 Trzebinia  
Poland  
T +48 24 201 00 00, F +48 24 367 74 14  
E-mail address of competent person responsible for the SDS : [reach.poludnie@orlen.pl](mailto:reach.poludnie@orlen.pl)

#### 1.4. Emergency telephone number

Emergency number : +48 24 201 00 00  
Emergency number 112

### SECTION 2: Hazards identification

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

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

Not classified

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

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

#### 2.2. Label elements

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

No labelling applicable

#### 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII  
Contains no PBT and/or vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

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### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Substance type : Mono-constituent  
 Name : ORLEsop  
 CAS-No. : 7778-80-5  
 EC-No. : 231-915-5

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Potassium sulfate (Main constituent)	CAS-No.: 7778-80-5	≥ 87	Not classified
Sulfuric acid monopotassium salt ; Potassium hydrogen sulfate (Impurities)	CAS-No.: 7646-93-7	< 1	Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335

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

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
 First-aid measures after skin contact : After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. If skin irritation occurs: Get medical advice/attention.  
 First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Obtain medical attention if pain, blinking or redness persists.  
 First-aid measures after ingestion : Rinse mouth out with water. Do not induce vomiting. Give nothing or a little water to drink. Call a poison center or a doctor if you feel unwell.

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

No additional information available

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.  
 Unsuitable extinguishing media : If there is a fire close by, use suitable extinguishing agents.

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

Hazardous decomposition products in case of fire : Toxic fumes may be released. On combustion, forms: sulphur oxides.

#### 5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Eliminate all ignition sources if safe to do so. Exercise caution when fighting any chemical fire.  
 Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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### SECTION 6: Accidental release measures

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

##### For non-emergency personnel

Emergency procedures : Evacuate area. Act in accordance with local emergency plan. Only qualified personnel equipped with suitable protective equipment may intervene. Evacuate unnecessary personnel. Do not allow run-off from fire-fighting to enter drains or water courses. Notify fire brigade and environmental authorities.

##### For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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

Methods for cleaning up : Mechanically recover the product. Minimise generation of dust. This material and its container must be disposed of in a safe way, and as per local legislation.  
 Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13. Section 15: Regulatory information.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing.  
 Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions : Store in a well-ventilated place. Keep cool.

##### Germany

Storage class (LGK, TRGS 510) : LGK 13 - Non-combustible solids

Joint storage table :

LGK 1	LGK 2A	LGK 2B	LGK 3	LGK 4.1A
LGK 4.1B	LGK 4.2	LGK 4.3	LGK 5.1A	LGK 5.1B
LGK 5.1C	LGK 5.2	LGK 6.1A	LGK 6.1B	LGK 6.1C
LGK 6.1D	LGK 6.2	LGK 7	LGK 8A	LGK 8B
LGK 10	LGK 11	LGK 12	LGK 13	LGK 10-13

Joint storage not permitted for : LGK 1, LGK 6.2, LGK 7  
 Joint storage with restrictions permitted for : LGK 4.1A, LGK 5.1C  
 Joint storage permitted for : LGK 2A, LGK 2B, LGK 3, LGK 4.1B, LGK 4.2, LGK 4.3, LGK 5.1A, LGK 5.1B, LGK 5.2, LGK 6.1A, LGK 6.1B, LGK 6.1C, LGK 6.1D, LGK 8A, LGK 8B, LGK 10, LGK 11, LGK 12, LGK 13, LGK 10-13

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

No additional information.

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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### National occupational exposure and biological limit values

ORLEsop (7778-80-5)	
Poland - Occupational Exposure Limits	
Local name	Pyły niesklasyfikowane ze względu na toksyczność
NDS (OEL TWA)	10 mg/m <sup>3</sup> Dust
OEL chemical category	E (Inhalable fraction)
Regulatory reference	Rozporządzenie Ministra Pracy i Polityki Społecznej z dnia 12 czerwca 2018 r. w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy.

#### DNEL and PNEC

ORLEsop (7778-80-5)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	21.3 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	37.6 mg/m <sup>3</sup>
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	12.8 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	11.1 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	12.8 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.68 mg/l
PNEC aqua (marine water)	0.068 mg/l
PNEC aqua (intermittent, freshwater)	6.8 mg/l
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

### 8.2. Exposure controls

#### Appropriate engineering controls

##### Appropriate engineering controls:

Ensure good ventilation of the work station. Use personal protective equipment as required. Keep workplace clean and tidy as much as possible. Refer to all applicable national, international and local regulations or provisions.

#### Personal protection equipment

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



#### Eye and face protection

##### Eye protection:

Safety glasses

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### Skin protection

#### Skin and body protection:

Wear suitable protective clothing

#### Hand protection:

Protective gloves

### Respiratory protection

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

### Environmental exposure controls

#### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Colour	: yellow to yellowish brown.
Odour	: characteristic.
Odour threshold	: Not available
Melting point	: 1067 °C
Freezing point	: Not applicable
Boiling point	: 1689 °C
Flammability	: Non flammable.
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
pH	: Not available
pH solution	: 5.5 – 7.5
Viscosity, kinematic	: Not applicable
Solubility	: Acetone: Organic solvent:
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: 2.66 g/cm <sup>3</sup> Type: 'density'
Relative density	: Not available
Relative vapour density at 20°C	: Not applicable
Particle size	: Not available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

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### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

On combustion, forms: sulphur oxides.

## SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified  
 Acute toxicity (dermal) : Not classified  
 Acute toxicity (inhalation) : Not classified

#### ORLEsop (7778-80-5)

LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal)), Guideline: EPA OPPTS 870.1200 (Acute Dermal Toxicity), Guideline: other:

#### Sulfuric acid monopotassium salt ; Potassium hydrogen sulfate (7646-93-7)

LD50 oral rat : > 2000 mg/kg Source: ECHA

Skin corrosion/irritation : Not classified

#### ORLEsop (7778-80-5)

pH : 7  
 Serious eye damage/irritation : Not classified  
 Respiratory or skin sensitisation : Not classified  
 Germ cell mutagenicity : Not classified  
 Carcinogenicity : Not classified

#### ORLEsop (7778-80-5)

NOAEL (chronic, oral, animal/male, 2 years)	256 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
NOAEL (chronic, oral, animal/female, 2 years)	284 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

Reproductive toxicity : Not classified

#### ORLEsop (7778-80-5)

NOAEL (animal/male, F0/P) : ≥ 1500 mg/kg bodyweight Reproductive toxicity  
 NOAEL (animal/male, F1) : ≥ 1500 mg/kg bodyweight Developmental toxicity

STOT-single exposure : Not classified

#### Sulfuric acid monopotassium salt ; Potassium hydrogen sulfate (7646-93-7)

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : Not classified

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Aspiration hazard : Not classified

### 11.2. Information on other hazards

#### Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

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

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

#### ORLEsop (7778-80-5)

LC50 - Fish [1]	680 mg/l Test organisms (species): Pimephales promelas
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### 12.2. Persistence and degradability

#### ORLEsop (7778-80-5)

Persistence and degradability	Not applicable – inorganic substance
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### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

#### ORLEsop (7778-80-5)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### 12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

### 12.7. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.

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Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Do not empty into drains. Do not allow to enter into surface water or drains.
Product/Packaging disposal recommendations	: Refer to manufacturer/supplier for information on recovery/recycling.
Ecological waste information	: Avoid release to the environment.

### SECTION 14: Transport information

In accordance with ADR / IMDG / RID

ADR	IMDG	RID
NOT SUBJECT	NOT SUBJECT	
<b>14.1. UN number or ID number</b>		
Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>		
Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>		
Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>		
Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>		
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available		

### 14.6. Special precautions for user

**Overland transport**

No data available

**Transport by sea**

No data available

**Rail transport**

No data available

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

### SECTION 15: Regulatory information

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

**EU-Regulations**

**REACH Annex XVII (Restriction List)**

Not listed on REACH Annex XVII

**REACH Annex XIV (Authorisation List)**

Not listed on REACH Annex XIV (Authorisation List)

**REACH Candidate List (SVHC)**

Contains no substance(s) listed on the REACH Candidate List

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

Not listed on the PIC list (Regulation EU 649/2012)

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

Not listed on the POP list (Regulation EU 2019/1021)

### **Ozone Regulation (2024/590)**

Not listed on the Ozone Depletion list (Regulation EU 2024/590)

### **Council Regulation (EC) for the control of dual-use items**

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

### **Explosives Precursors Regulation (EU 2019/1148)**

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

### **Drug Precursors Regulation (EC 273/2004)**

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

### **National regulations**

#### **Germany**

VOC ordinance (ChemVOCFarbV)

:

Employment restrictions

: Observe restrictions according Act on the Protection of Working Mothers (MuSchG).  
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).

Water hazard class (WGK)

: WGK 1, Slightly hazardous to water (Classification according to AwSV; ID No. 255).

Major Accidents Ordinance (12. BImSchV)

: Is not subject to the Major Accidents Ordinance (12. BImSchV)

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### Poland

#### Polish National Regulations

: Regulation of the Minister of Economy of 21 December 2005 on the essential requirements for personal protective equipment (J. o L. No. 259, item 2173).  
 Decree of the Minister of Environment of 14 December 2014 on the catalogue of waste (J. o L. 2014, item 1923).  
 Regulation of the Minister of Family, Labour and Social Policy of 12 June 2018 on the highest permissible concentration and intensity of noxious agents for health at work environment (J. o L. item 1286 as amended).  
 Regulation of the Minister of Health of 10 August 2012 on the criteria and classification method of chemical substances and their mixtures (consolidated text: J. o L. 2015, item 208).  
 Regulation of the Minister of Health of 2 February 2011 on tests and measurements of the noxious agents for health at work environment (J. o L. No. 33, item 166 as amended).  
 Regulation of the Minister of Health of 20 April 2012 on labelling of hazardous substances and hazardous mixtures and certain mixtures (consolidated text: J. o L. 2015, item 450)  
 The announcement of Minister of Health dated 9 September 2016 concerning the consolidated text announcement of the decree of the Minister of Health of 30 December 2004 on health and safety at work related to exposure to chemical agents at work (J. o L. of 16 September 2016, item 1488)  
 Regulation of the Minister of Environment of 3 September 2014 on designs of packaging labelling (J. o L. 2014 item 1298)  
 Regulation of the Minister of Environment of 9 December 2003 on particularly hazardous substances to the environment (J. o L. No. 217, item 2141).  
 Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008  
 The ADR Agreement - Annex to the J. o L. of 26 April 2019 Government Statement of 18 February 2019 on the entry into force of the amendments to Annex A and B to the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), signed in Geneva on 30 September 1957 (J. o L. 2019, item 769)  
 The announcement of Marshal of the Sejm of the Republic of Poland dated 19 October 2016 concerning the consolidated text announcement of the decree on the management of packaging and packaging waste (J. o L. 2016, item 1863 as amended).  
 Act of 14 December 2012 on waste (J. o L. 2013, item 322 as amended; consolidated text J. o L. 2020, item 797).  
 Act of 19 August 2011 on the Carriage of Dangerous Goods (J. o L. 2011 No. 227, item 1367 as amended; consolidated text J. o L. 2020, item 154).  
 Act of 25 February 2011 on chemical substances and their mixtures (J. o L. No. 63, item 322 as amended; consolidated text J. o L. 2019, item 1225).  
 according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

### Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level

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### Abbreviations and acronyms:

DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disruptor

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Training advice : As from 24 August 2023 adequate training is required before industrial or professional use. Personal monitoring.

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

Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H314	Causes severe skin burns and eye damage.

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

H318	Causes serious eye damage.
H335	May cause respiratory irritation.

The classification complies with : ATP 12

Safety Data Sheet (SDS), EU