

SAFETY DATA SHEET

according to the Global Harmonized System (and with all of the information required by the CPR)

Revision Date 03/22/2018

Version 1.2

SECTION 1. Identification**Product identifier**

Product number	PX1535
Product name	Potassium Oxalate Monohydrate GR ACS
CAS-No.	6487-48-5

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

Identified uses	Reagent for analysis
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Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation 290 Concord Road, Billerica, MA 01821, United States of America General Inquiries: +1-978-715-4321 Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5) MilliporeSigma is a business of Merck KGaA, Darmstadt, Germany.
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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SECTION 2. Hazards identification**GHS Classification**

Acute toxicity, Category 4, Oral, H302
Acute toxicity, Category 4, Dermal, H312
Eye irritation, Category 2A, H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling*Hazard pictograms**Signal Word*

Warning

Hazard Statements

H302 + H312 Harmful if swallowed or in contact with skin.
H319 Causes serious eye irritation.

Precautionary Statements

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P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/ eye protection/ face protection.

P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 Call a POISON CENTER/doctor if you feel unwell.

P322 Specific measures (see supplemental first aid instructions on this label).

P330 Rinse mouth.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P363 Wash contaminated clothing before reuse.

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Formula

$K_2C_2O_4 \cdot H_2O$

$C_2K_2O_4 \cdot H_2O$ (Hill)

Molar mass

184.24 g/mol

Hazardous ingredients

Chemical name (Concentration)

CAS-No.

di-Potassium oxalate monohydrate (>= 90 % - <= 100 %)

6487-48-5

Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

General advice

First aider needs to protect himself.

Inhalation

After inhalation: fresh air.

Skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

Eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

Ingestion

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed
irritant effects**

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The following applies to oxalates in general: nausea and vomiting after swallowing. Mucosal irritations, coughing, and dyspnoea after inhalation. Systemic effect: drop in the blood calcium level, toxic effect on kidneys, cardiovascular disorders.

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapors.

Advice for firefighters

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Suppress (knock down) gases/vapors/mists with a water spray jet.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

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Conditions for safe storage, including any incompatibilities

Tightly closed. Dry.

Store at room temperature.

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Contains no substances with occupational exposure limit values.

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

Eye/face protection

Safety glasses

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment:

protective clothing

Respiratory protection

required when dusts are generated.

Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are performed according to the instructions of the producer. These measures have to be properly documented.

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SECTION 9. Physical and chemical properties

Physical state	solid
Color	white
Odor	odorless
Odor Threshold	Not applicable
pH	7.0 - 8.5 at 50 g/l 68 °F (20 °C)
Melting point	> 280 °F (> 138 °C) Method: OECD Test Guideline 102 Decomposes before melting.
Boiling point/boiling range	Not applicable, (decomposition)
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable. Flammability (solids)
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	< 0.1 hPa at 68 °F (20 °C) Method: OECD Test Guideline 104
Relative vapor density	No information available.
Density	2.20 g/cm ³ at 68.7 °F (20.4 °C) Method: OECD Test Guideline 109
Relative density	No information available.
Water solubility	392 g/l at 68 °F (20 °C) Method: OECD Test Guideline 105

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Partition coefficient: n-octanol/water	log Pow: < -5.2 (20 °C) OECD Test Guideline 107 Bioaccumulation is not expected.
Autoignition temperature	No information available.
Decomposition temperature	ca.280 °F (138 °C)
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Bulk density	ca.700 - 1,100 kg/m ³
Particle size	Mean particle size 397.8 µm Method: OECD Test Guideline 110

SECTION 10. Stability and reactivity

Reactivity

See below

Chemical stability

releases water of crystallization when heated.

Possibility of hazardous reactions

Risk of explosion with:

Strong oxidizing agents

Conditions to avoid

Strong heating (decomposition).

Incompatible materials

no information available

Hazardous decomposition products

no information available

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact, Ingestion

Acute oral toxicity

LD50 Rat: 375 mg/kg (Lit.) The value is given in analogy to the following substances: Oxalic acid

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Acute inhalation toxicity

Symptoms: Possible damages:, mucosal irritations

Acute dermal toxicity

Acute toxicity estimate : 1,100.1 mg/kg

Expert judgment

Skin irritation

In vitro study

Result: negative

OECD Test Guideline 439

The value is given in analogy to the following substances: di-Ammonium oxalate monohydrate

Eye irritation

In vitro study

Result: positive

OECD Test Guideline 492

The value is given in analogy to the following substances: di-Ammonium oxalate monohydrate

In vitro study

Result: non-corrosive

OECD Test Guideline 437

The value is given in analogy to the following substances: di-Ammonium oxalate monohydrate

Causes serious eye irritation.

Sensitization

Local lymph node assay (LLNA) Mouse

Result: negative

Method: OECD Test Guideline 429

The value is given in analogy to the following substances: di-Ammonium oxalate monohydrate

Genotoxicity in vitro

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

The value is given in analogy to the following substances: Oxalic acid

Specific target organ systemic toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or

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NTP	equal to 0.1% is on OSHA's list of regulated carcinogens. No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information

After absorption:

We have no description of any toxic symptoms.

The following applies to oxalates in general: nausea and vomiting after swallowing. Mucosal irritations, coughing, and dyspnoea after inhalation. Systemic effect: drop in the blood calcium level, toxic effect on kidneys, cardiovascular disorders.

Other dangerous properties can not be excluded.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to daphnia and other aquatic invertebrates

semi-static test EC50 Daphnia magna (Water flea): > 100 mg/l; 48 h

Analytical monitoring: yes

OECD Test Guideline 202 The value is given in analogy to the following substances: di-Ammonium oxalate monohydrate

Toxicity to algae

static test ErC50 Pseudokirchneriella subcapitata (green algae): > 78 mg/l; 72 h

Analytical monitoring: yes

OECD Test Guideline 201 The value is given in analogy to the following substances: di-Ammonium oxalate monohydrate

static test NOEC Pseudokirchneriella subcapitata (green algae): 78 mg/l; 72 h

Analytical monitoring: yes

OECD Test Guideline 201 The value is given in analogy to the following substances: di-Ammonium oxalate monohydrate

Persistence and degradability

Biodegradability

89 %; 20 d; aerobic

Directive 67/548/EEC, Annex V, C.5.

The value is given in analogy to the following substances: Oxalic acid

Readily biodegradable.

Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: < -5.2 (20 °C)

OECD Test Guideline 107

Bioaccumulation is not expected.

Mobility in soil

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No information available.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

Not classified as dangerous in the meaning of transport regulations.

Air transport (IATA)

Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. Regulatory information

United States of America

Canada

WHMIS Classification

D1B

Toxic Material Causing Immediate and Serious Toxic Effects

D2B

Toxic Material Causing Other Toxic Effects

Toxic by ingestion, Eye irritant

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Notification status

TSCA:

All components of the product are listed in the TSCA-inventory.

DSL:

All components of this product are on the Canadian DSL

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

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Labeling

Hazard pictograms



Signal Word

Warning

Hazard Statements

H302 + H312 Harmful if swallowed or in contact with skin.

H319 Causes serious eye irritation.

Precautionary Statements

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Revision Date 03/22/2018

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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