

Conforms: GHS (rev 3)(2009)

(This Safety Data Sheet conforms to the requirements of the Hazard Communication Standard (HCS)
(29 CFR 1910.1200(g)), revised in 2012.) - United States

Date of issue/ Date of revision : 11/25/2014
Date of previous issue : 08/01/2014
Version : 2.1



SAFETY DATA SHEET

Potassium Sulfate 0-0-50

Section 1. Identification

Product name : Potassium Sulfate 0-0-50
Other means of identification : Potassium sulfate
Product type : Solid (Granular solid.) (Crystalline solid.)
Product code : PZ065U

Uses

Area of application : Professional applications
Material uses : Fertilizers.

Supplier

Supplier's details : Yara North America, Inc.

Address

Street : 100 North Tampa Street, Suite 3200
Postal code : 33602
City : TAMPA
Country : United States

Telephone number : +1 813 222 5700
Fax no. : +1 813 875 5735
e-mail address of person responsible for this SDS : yna-hesq@yara.com
Emergency telephone number (with hours of operation) : US: Chemtrec 24-hours Emergency Response: 1-800-424-9300
Canada: 24 Hour Emergency Service, (Canutec 613-996-6666)

National advisory body/Poison Center

Name : The National Poisons Emergency number
Telephone number : 1 800 222 1222

Section 2. Hazards identification

OSHA/HCS status : This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification and labelling have been performed following the guidelines and recommendation of GHS and the intended use.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : Not applicable.

Precautionary statements

General : Not applicable.

Hazards not otherwise classified : Product forms slippery surface when combined with water.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

CAS number/other identifiers

Other means of identification : Potassium sulfate

CAS number : 7778-80-5

Product / ingredient name	CAS number	%
Sulfuric acid potassium salt (1:2)	CAS: 7778-80-5	>=91 -

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Rinse with plenty of running water. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : If inhaled, remove to fresh air. Get medical attention if you feel unwell.
- Skin contact** : Wash with soap and water. Get medical attention if irritation develops.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if adverse health effects persist or are severe.

Most important symptoms/effects, acute and delayed**Potential acute health effects**

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None identified.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
sulfur oxides
metal oxide/oxides
Avoid breathing dusts, vapors or fumes from burning materials.
In case of inhalation of decomposition products in a fire, symptoms may be delayed.

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Remark : Non-flammable.

Remark : None.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Personal precautions, protective equipment and emergency procedures : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

- Small spill** : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Precautions for safe handling** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Protective measures** : Put on appropriate personal protective equipment (see Section 8).
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

- Appropriate engineering controls** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing. A washing facility or water for eye and skin cleaning purposes should be present.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Solid [Granular solid.] [Crystalline solid.]

Color : Light Gray.

Odor : Odorless.

Odor threshold : Not determined.

pH : 8 - 9 [Conc.: 50 g/l] @ 25 °C (77.00 °F)

Melting/freezing point : 1,069 °C (33.93 °F)

Boiling/condensation point : 1,689 °C
(35.04 °F)

Sublimation temperature : Not determined.

Flash point : Not applicable

Evaporation rate : Not determined.

Flammability : Non-flammable.

Lower and upper explosive (flammable) limits : **Lower:** Not determined.
Upper: Not determined.

Vapor pressure : Not determined.

Relative density	: 2.66 @ 20 °C (68.00 °F)
Solubility	: Not determined.
Partition coefficient: n-octanol/water	: Not determined.
Auto-ignition temperature	: Not determined.
Decomposition temperature	: Not determined.
Viscosity	: Dynamic: Not determined.
	: Kinematic: Not determined.
Explosive properties	: None.
Oxidizing properties	: None.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid contamination by any source including metals, dust and organic materials.
Incompatible materials	: No specific data.
Remark	: Metal. Strong reducing agents
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product / ingredient name	Result	Species	Dose	Exposure	References
Sulfuric acid potassium salt (1:2)					
	LD50 Oral	Rat	> 2,000 mg/kg 425 Acute Oral Toxicity: Up-and-Down Procedure	-	IUCLID5
	LC50 Inhalation	Rat	1.2 mg/l	192 h	IUCLID5
	LD50 Dermal	Rat	> 2,000 mg/kg OECD 402	-	IUCLID5

Conclusion/Summary	: No known significant effects or critical hazards.
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Irritation/Corrosion

Conclusion/Summary

- Skin** : No known significant effects or critical hazards.
- Eyes** : No known significant effects or critical hazards.
- Respiratory** : No known significant effects or critical hazards.

Sensitization**Conclusion/Summary**

- Skin** : No known significant effects or critical hazards.
- Respiratory** : No known significant effects or critical hazards.

Mutagenicity

- Conclusion/Summary** : No known significant effects or critical hazards.

Carcinogenicity

Product / ingredient name	Result	Species	Dose	Exposure	References
Sulfuric acid potassium salt (1:2)	Negative - Oral - NOAEL 453 Combined Chronic Toxicity/Carcinogenicity Studies	Rat	284 mg/kg bw/day	-	IUCLID5

- Conclusion/Summary** : No known significant effects or critical hazards.

Reproductive toxicity

Product / ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure	References
Sulfuric acid potassium salt (1:2)	-	Negative	Negative	Rat	Oral: > 1500 mg/kg bw/day OECD 422	-	IUCLID5

- Conclusion/Summary** : No known significant effects or critical hazards.

Teratogenicity

- Conclusion/Summary** : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

No known significant effects or critical hazards.

Specific target organ toxicity (repeated exposure)

No known significant effects or critical hazards.

Aspiration hazard

No known significant effects or critical hazards.

- Information on the likely** : Not available.

routes of exposure**Potential acute health effects**

Eye contact	:	No known significant effects or critical hazards.
Inhalation	:	No known significant effects or critical hazards.
Skin contact	:	No known significant effects or critical hazards.
Ingestion	:	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	:	No specific data.
Inhalation	:	No specific data.
Skin contact	:	No specific data.
Ingestion	:	No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure**Short term exposure**

Potential immediate effects	:	Not available.
Potential delayed effects	:	Not available.

Long term exposure

Potential immediate effects	:	Not available.
Potential delayed effects	:	Not available.

Potential chronic health effects

Product / ingredient name	Result	Species	Dose	Exposure	References
Sulfuric acid potassium salt (1:2)	NOAEL Oral	Rat	256 mg/kg 453 Combined Chronic Toxicity/Carcinogenicity Studies	-	IUCLID5

Conclusion/Summary : No known significant effects or critical hazards.

General	:	No known significant effects or critical hazards.
Carcinogenicity	:	No known significant effects or critical hazards.
Mutagenicity	:	No known significant effects or critical hazards.
Teratogenicity	:	No known significant effects or critical hazards.
Developmental effects	:	No known significant effects or critical hazards.
Fertility effects	:	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	:	No specific data.
Inhalation	:	No specific data.
Skin contact	:	No specific data.
Ingestion	:	No specific data.

Numerical measures of toxicity**Acute toxicity estimates**

Not available.

Section 12. Ecological information**Toxicity**

Product / ingredient name	Result	Species	Exposure	References
Sulfuric acid potassium salt (1:2)				
	Acute LC50 680 mg/l Fresh water	Fish - Labeo boga	96 h	IUCLID5
	Acute LC50 3,550 mg/l Fresh water	Fish - Lepomis macrochirus	96 h	Proc. Acad. Nat. Sci. Philadelphia106: 185-205
	Acute LC50 720 mg/l Fresh water	Aquatic invertebrates. - Daphnia	48 h	IUCLID5
	Acute EC50 2,700 mg/l Fresh water	Aquatic plants - Heterosigma akashiwo	432 h	IUCLID5
	Acute NOEC > 100 mg/l Fresh water	Aquatic plants	-	IUCLID 5

Conclusion/Summary : No known significant effects or critical hazards.

Persistence/degradability

Product / ingredient name	Test	Result	Dose	Inoculum	References
Sulfuric acid potassium salt (1:2)		-			
Remarks: Practically non-toxic to aquatic organisms.					

Conclusion/Summary : No known significant effects or critical hazards.

Bioaccumulative potential

Conclusion/Summary : No known significant effects or critical hazards.

Mobility in soil

Soil/water partition coefficient (KOC) : Not available.

Mobility : This product may move with surface or groundwater flows because its water solubility is: high

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations**Product**

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the

requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Acute hazardous waste "P" List:

Not listed

United States - RCRA Toxic hazardous waste "U" List:

Not listed

Section 14. Transport information

Regulation: UN Class

14.1 UN number	Not regulated.
14.2 UN proper shipping name	
14.3 Transport hazard class(es)	
14.4 Packing group	
14.5 Environmental hazards	No.
14.6 Additional information <u>Environmental hazards</u>	: No.

Regulation: IMDG

14.1 UN number	Not regulated.
14.2 UN proper shipping name	
14.3 Transport hazard class(es)	
14.4 Packing group	
14.5 Environmental hazards	No.
14.6 Additional information <u>Marine pollutant</u>	: No.

Regulation: IATA

14.1 UN number	Not regulated.
14.2 UN proper shipping name	
14.3 Transport hazard class(es)	
14.4 Packing group	

14.5 Environmental hazards	No.
14.6 Additional information <u>Marine pollutant</u>	No.

Regulation: DOT Classification	
14.1 UN number	Not regulated.
14.2 UN proper shipping name	
14.3 Transport hazard class(es)	
14.4 Packing group	
14.5 Environmental hazards	No.
14.6 Additional information <u>Environmental hazards</u>	: No.

Regulation: TDG Class	
14.1 UN number	Not regulated.
14.2 UN proper shipping name	
14.3 Transport hazard class(es)	
14.4 Packing group	
14.5 Environmental hazards	No.
14.6 Additional information <u>Environmental hazards</u>	: No.

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.'

IMSBC

Bulk cargo shipping name : POTASSIUM SULPHATE
Class : Not applicable.
Group : C

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not applicable.

Section 15. Regulatory information

United States

U.S. Federal regulations : **United States - TSCA 12(b) - Chemical export notification:** None of the components are listed.
United States - TSCA 4(a) - Final Test Rules: Not listed
United States - TSCA 4(e) - ITC Priority list: Not listed
United States - TSCA 4(a) - Proposed test rules: Not listed
United States - TSCA 4(f) - Priority risk review: Not listed

United States - TSCA 5(a)2 - Final significant new use rules: Not listed
United States - TSCA 5(a)2 - Proposed significant new use rules: Not listed
United States - TSCA 5(e) - Substances consent order: Not listed
United States - TSCA 6 - Final risk management: Not listed
United States - TSCA 6 - Proposed risk management: Not listed
United States - TSCA 8(a) - Comprehensive assessment report (CAIR): Not listed
United States - TSCA 8(a) - Chemical risk rules: Not listed
United States - TSCA 8(a) - Dioxin/Furane precursor: Not listed
United States - TSCA 8(a) - Chemical Data Reporting (CDR): Not determined
United States - TSCA 8(a) - Preliminary assessment report (PAIR): Not listed
United States - TSCA 8(c) - Significant adverse reaction (SAR): Not listed
United States - TSCA 8(d) - Health and safety studies: Not listed
United States - EPA Clean water act (CWA) section 307 - Priority pollutants: Not listed
United States - EPA Clean water act (CWA) section 311 - Hazardous substances: Not listed
United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Flammable substances: Not listed
United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Toxic substances: Not listed
United States - Department of commerce - Precursor chemical: Not listed

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Not listed
Clean Air Act Section 602 Class I Substances : Not listed
Clean Air Act Section 602 Class II Substances : Not listed
DEA List I Chemicals (Precursor Chemicals) : Not listed
DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Not applicable.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

State regulations

Massachusetts	:	None of the components are listed.
New York	:	None of the components are listed.
New Jersey	:	None of the components are listed.
Pennsylvania	:	None of the components are listed.

California Prop. 65

This product contains a chemical (or chemicals) known to the State of California to cause cancer and birth defects or other reproductive harm.

International lists

Philippines inventory (PICCS): All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.

Korea inventory: All components are listed or exempted.

Japan inventory: All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Australia inventory (AICS): All components are listed or exempted.

Canada inventory (DSL and NDSL): All components are listed or exempted.

United States inventory (TSCA 8b): All components are listed or exempted.

EC INVENTORY (EINECS/ELINCS): All components are listed or exempted.

Safety, health and environmental regulations specific for the product	:	No known other specific national and/or regional regulations applicable to this product (including its ingredients).
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Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	-	0
Flammability		0
Physical hazards		0

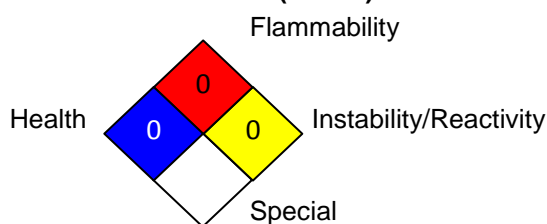
Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Chronic toxicity:

- : No data available.

* : Carcinogen, Target organs, Reproductive effects, Sensitizer to lungs

National Fire Protection Association (U.S.A.)

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Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Key to abbreviations

- : ADN/ADNR = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
- : ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
- : ATE = Acute Toxicity Estimate
- : BCF = Bioconcentration Factor
- : bw = Body weight
- : GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- : IATA = International Air Transport Association
- : IBC = Intermediate Bulk Container
- : IMDG = International Maritime Dangerous Goods
- : LogPow = logarithm of the octanol/water partition coefficient
- : MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- : NOHSC = National Occupational Health and Safety Commission
- : RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
- : SUSDP = Standard for the Uniform Scheduling of Drugs and Poisons
- : UN = United Nations

References

- : EU REACH IUCLID5 CSR.
- : National Institute for Occupational Safety and Health, U.S. Dept. of Health, Education, and Welfare, Reports and Memoranda Registry of Toxic Effects of Chemical Substances.
- : IHS, 4777 Levy Street, St Laurent, Quebec HAR 2P9, Canada.

History

- : Date of printing : 12/01/2014
- : Date of issue/Date of revision : 11/25/2014
- : Date of previous issue : 08/01/2014
- : Version : 2.1
- : Prepared by : Yara Product Classifications & Regulations.

|| Indicates information that has changed from previously issued version.

Notice to reader

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