

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product identifier:

Trade name: Potassium Iodate
CAS number: 7758-05-6
EC number: 231-831-9
Chemical formula: KIO₃
REACH Registration Number: 01-2119920996-25-XXXX
Product type: Substance/mono-constituent
Molecular mass: 214.02 g/mol

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

Relevant identified uses:

Exposure scenario title	Exposure scenario group	Sector of use	Use descriptors (PROC or PC)	Use descriptors (ERC)
ES01 Formulation stage			PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PC 29	ERC 3
ES02 Industrial end-use stage	Industrial	SU 9	PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PC 21	ERC 6a
ES03 Industrial end-use Stage	Industrial	SU 4	PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PC 32	ERC 5

Uses advised against:

Group	Uses advised against	Use descriptors (PC)	Environmental release category (ERC)	Article (AC)
	No uses advised against known.			

Company name: Nexchem Ltd
 Unit 3 Barshaw Park
 Leycroft Road
 Leicester
 LE4 1ET
 Tel: 0116 2311130
 24/7 Emergency Tel: 0800 246 1274
 Email: sales@nexchem.co.uk

SAFETY DATA SHEET

Potassium Iodate

Issued: 08/04/2019

Page 2

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture: Ox. Sol. Category 2 H272: May intensify fire; oxidiser.

Skin Irrit. Category 2 H315: Causes skin irritation.

Eye Irrit. Category 2 H319: Causes serious eye irritation.

STOT SE Category 3 H335: May cause respiratory irritation.

Label Elements:

Labelling according to Regulation (EC) No 1272/2008 (CLP):



Signal word:

Danger

Hazard Statements:

H272: May intensify fire; oxidiser.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

Precautionary Statements:

P210: Keep away from heat/sparks/open flames/hot surfaces and other ignition sources. No smoking.

P280: Wear protective gloves, protective clothing and eye protection/face protection.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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.

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

Other Hazards:

No other hazards known.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances:

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark
Potassium Iodate 01-2119920996-25	7758-05-6 231-831-9	C>99%	Ox. Sol. 2; H272 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335	(1)	Monoconstituent

Mixtures:

Not applicable.

[cont...]

SAFETY DATA SHEET

Potassium Iodate

Issued: 08/04/2019

Page 3

4. FIRST AID MEASURES

Description of first aid measures:

General:	Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: Artificial respiration or oxygen. Cardiac arrest: Perform resuscitation. Victim conscious with laboured breathing: Half-seated. Victim in shock: On his back with legs slightly raised. Vomiting: Prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Get psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.
Skin contact:	Wash immediately with lots of water. Do not apply (chemical) neutralising agents without medical advice. Soap may be used. Take victim to a doctor if irritation persists.
Inhalation:	Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
Ingestion:	Rinse mouth with water. Do not apply (chemical) neutralising agents without medical advice. Consult a doctor/medical service if you feel unwell.
Eye contact:	Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply (chemical) neutralising agents without medical advice. Take victim to an ophthalmologist if irritation persists.

Most important symptoms and effects, both acute and delayed:

Acute symptoms:

After inhalation:	AFTER INHALATION OF DUST: Irritation of the respiratory tract. Irritation of the nasal mucous membranes.
After skin contact:	Tingling/irritation of the skin.
After eye contact:	Irritation of the eye tissue.
After ingestion:	Nausea. Abdominal pain. Diarrhoea.
Delayed symptoms:	No effects known.

Indication of any immediate medical attention and special treatment needed:

If applicable and available, it shall be listed below.

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media:

Small fire:	Water, Quick-acting ABC powder extinguisher, Quick-acting CO2 extinguisher.
Major fire:	Quantities of water.

Unsuitable extinguishing media:

Small fire:	Foam.
Major fire:	Foam.

Special hazards arising from the substance or mixture:

Decomposes on exposure to temperature rise: Oxidation which increases fire hazard.

On heating:	Oxidation resulting in increased fire or explosion risk and release of corrosive gases/vapours (hydrogen iodide).
--------------------	---

[cont...]

SAFETY DATA SHEET

Potassium Iodate

Issued: 08/04/2019

Page 4

Advice for fire-fighters:

Instructions: Cool tanks/drums with water spray/remove them into safety. Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water.

Special protective equipment for fire-fighters: Gloves. Face-shield. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. Dust cloud production: dust-tight suit. Heat/fire exposure: compressed air/oxygen apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Prevent dust cloud formation, e.g. by wetting. No naked flames. Keep container closed.

Protective equipment for non-emergency personnel: See heading 8.2.

Protective equipment for emergency responders: Gloves. Face-shield. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. Dust cloud production: dust-tight suit.

Suitable protective clothing: See heading 8.2.

Environmental precautions: Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Knock down/dilute dust cloud with water spray. Prevent spreading in sewers.

Methods and material for containment and cleaning up: Stop dust cloud by covering with sand/earth. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

Reference to other sections: See heading 13.

7. HANDLING AND STORAGE

The information in this section is a general description. If applicable and available, exposure scenarios are available on request. Always use the relevant exposure scenarios that correspond to your identified use.

Precautions for safe handling: Avoid raising dust. Use earthed equipment. Keep away from naked flames/heat. Observe normal hygiene standards. Remove contaminated clothing immediately. Do not discharge the waste into the drain. Keep container tightly closed.

Conditions for safe storage, including any incompatibilities:

Safe storage requirements: Store in a cool area. Store in a dry area. Keep out of direct sunlight. Keep container in a well-ventilated place. Keep only in the original container. Meet the legal requirements.

Keep away from: Heat sources, combustible materials, reducing agents, (strong) acids, (strong) bases, organic materials, metal powders, water/moisture.

Suitable packaging material: No data available.

Non-suitable packaging material: No data available.

Specific end use(s): If applicable and available, exposure scenarios are available on request. See information supplied by the manufacturer.

[cont...]

SAFETY DATA SHEET

Potassium Iodate

Issued: 08/04/2019

Page 5

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

Occupational exposure:

a) Occupational exposure limit values If limit values are applicable and available these will be listed below.

b) National biological limit values If limit values are applicable and available there will be listed below.

Sampling methods:

If applicable and available it will be listed below.

Applicable limit values when using the substance or mixture as intended: If limit values are applicable and available there will be listed below.

Threshold values:

DNEL/DMEL – Workers:

Potassium iodate:

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	8.814 mg/m ³	
	Long-term systemic effects dermal	5 mg/kg bw/day	

DNEL/DMEL – General population:

Potassium iodate:

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	1.665 mg/m ³	
	Long-term systemic effects dermal	2.5 mg/kg bw/day	
	Long-term systemic effects oral	5 mg/kg bw/day	

PNEC:

Potassium iodate:

Compartments	Value	Remark
Fresh water	1 mg/l	
Marine water	0.1 mg/l	
STP	27.8 mg/l	
Fresh water sediment	25.605 mg/kg sediment dw	
Marine water sediment	25.605 mg/kg sediment dw	
Soil	5.867 mg/kg soil dw	

Control banding:

If applicable and available it will be listed below.

Exposure controls:

The information in this section is a general description. If applicable and available, exposure scenarios are available on request. Always use the relevant exposure scenarios that correspond to your identified use.

Appropriate engineering controls: Avoid raising dust. Use earthed equipment. Keep away from naked flames/heat.

Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

[cont...]

SAFETY DATA SHEET

Potassium Iodate

Issued: 08/04/2019

Page 6

Individual protection measures, such as personal protective equipment:

Observe normal hygiene standards. Do not eat, drink or smoke during work.

Respiratory protection: Combined gas/dust mask with filter type A/P2.

Hand protection: Protective gloves against chemicals (EN374).

Materials	Measured breakthrough time	Thickness	Protection index
Butyl rubber		0.7 mm	

Eye protection: Face shield. In case of dust production: protective goggles.

Skin protection: Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing.

Environmental exposure controls: See headings 6.2, 6.3 and 13.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Physical form:	Crystalline solid/powder
Odour:	Odourless
Odour threshold:	Not applicable
Colour:	White
Particle size:	D50; 150 µm – 500 µm
Explosion limits:	No data available
Flammability:	Non-flammable
Log Kow:	-1; Experimental value; Equivalent to OECD 107: 25°C
Dynamic viscosity:	No data available
Kinematic viscosity:	No data available
Melting point:	560°C (975 hPa)
Boiling point:	735°C; Calculated
Evaporation rate:	No data available
Relative vapour density:	Not applicable
Vapour pressure:	6.82E-21 hPa; 25°C; Calculated
Solubility:	Water; 7 g/100 ml; 25°C
Petroleum spirit:	0.41 g/100ml; 25°C
Methanol:	25°C; insoluble
Ethanol:	25°C; insoluble
Relative density:	3.5; 25°C
Decomposition temperature:	>560°C
Auto-ignition temperature:	Not quantifiable
Flash point:	Not applicable (solid)
Explosive properties:	No chemical group associated with explosive properties
Oxidising properties:	May intensify fire; oxidiser.
pH:	6.07; 1%; 26°C
Surface tension:	No data available
Dissociation constant:	0.047; pKa
Absolute density:	3520 kg/m ³ ; 25°C

[cont...]

SAFETY DATA SHEET

Potassium Iodate

Issued: 08/04/2019

Page 7

10. STABILITY AND REACTIVITY

- Reactivity:** May intensify fire; oxidiser.
- Chemical stability:** Stable under normal conditions.
- Possibility of hazardous reactions:** Violent exothermic reaction with organic material and with combustible materials: risk of spontaneous ignition. Violent exothermic reaction with (strong) reducers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) metal powders.
- Conditions to avoid:** Precautionary measures Avoid raising dust. Use earthed equipment. Keep away from naked flames/heat.
- Incompatible materials:** Combustible materials, reducing agents, (strong) acids, (strong) bases, organic materials, metal powders, water/moisture.
- Hazardous decomposition products:** On heating: oxidation resulting in increased fire or explosion risk and release of corrosive gases/vapours (hydrogen iodide).

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

Test results:

Acute toxicity: Potassium iodate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		500 mg/kg bw 100 mg/kg bw		Mouse (male/female)	Experimental value	
Dermal	LD50	OECD 402	>2000 mg/kg bw	24 h	Rat (male/female)	Literature study Experimental value	Not classified
Inhalation						Data waiving	

Classification of this substance is debatable as it does not correspond to the conclusion from the test.

Conclusion: Not classified for acute toxicity

Corrosion/irritation: Potassium iodate

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating		2 h – 12 h		Human	Experimental value	
Skin	Irritating				Human	Weight of evidence	

Conclusion: Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

Respiratory or skin sensitisation: Potassium iodate

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Skin	Not sensitising	Patch test			Human	Weight of evidence	

Conclusion: Not classified as sensitising for skin. Not classified as sensitising for inhalation.

[cont...]

SAFETY DATA SHEET

Potassium Iodate

Issued: 08/04/2019

Page 8

Specific target organ toxicity: Potassium iodate

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (diet)	NOAEL	Subchronic toxicity test	3000 mg/l		No effect	90 day(s)	Rat (female)	Experimental value
Dermal								Data waiving
Inhalation								Data waiving
Conclusion:								Not classified for subchronic toxicity

Mutagenicity (in vitro): Potassium iodate

Result	Method	Test substrate	Effect	Value determination
Negative	Other	Chinese hamster ovary (CHO)		Experimental value

Mutagenicity (in vivo): Potassium iodate. No test data available.

Conclusion: Not classified for mutagenic or genotoxic toxicity.

Carcinogenicity: Potassium iodate No test data available.

Conclusion: Not classified for carcinogenicity.

Reproductive toxicity: Potassium iodate

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (diet))	LOAEL	OECD 421	5 mg/kg bw/day	15 day(s) – 71 day(s)	Rat (male/female)	Weight changes		Experimental value of similar product
Maternal toxicity (Oral (diet))	LOAEL	Equivalent to OECD 421	45 mg/kg bw/day	59 week(s) – 71 week(s)	Rat (female)	Reduced food consumption		Experimental value of similar product
Effects on fertility (Oral (diet))	Dose level	Other	0.1 %	17 day(s) – 90 day(s)	Rat (male/female)	No effect		Experimental value of similar product
	LOAEL		90 mg/kg bw/day	15 day(s)- 71 day(s)	Rat (male/female)	Adverse effects on fertility		Experimental value of similar product

Conclusion: Not classified for reprotoxic or developmental toxicity

Toxicity other effects: Potassium iodate. No test data available.

Chronic effects from short and long-term exposure: Potassium iodate. No effects known.

12. ECOLOGICAL INFORMATION

Persistence and degradability: Potassium iodate.

Biodegradation water:

Method	Value	Duration	Value determination
			Data waiving

Half-life water (t1/2 water):

Method	Value	Primary degradation/mineralisation	Value determination
			Data waiving

Conclusion Biodegradability: Not applicable.

[cont...]

SAFETY DATA SHEET

Potassium Iodate

Issued: 08/04/2019

Page 9

Bioaccumulative potential: Potassium iodate

BCF fishes:

Parameter	Method	Value	Duration	Species	Value determination
					Data waiving

BCF other aquatic organisms:

Parameter	Method	Value	Duration	Species	Value determination
					Data waiving

Log Kow:

Parameter	Method	Value	Species	Value determination
				Data waiving

Conclusion: Not bioaccumulative

Mobility in soil: Potassium iodate

(log) Koc:

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	1.503	Calculated value

Conclusion: Highly mobile in soil.

Results of PBT and vPvB assessment: The criteria of PBT and vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006 do not apply to inorganic substances.

Other adverse effects: Potassium iodate.

Fluorinated greenhouse gases (Regulation (EU) No 517/2014): Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Ozone-depleting potential (ODP): Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Groundwater: Groundwater pollutant

13. DISPOSAL CONSIDERATIONS

The information in this section is a general description. If applicable and available, exposure scenarios are available on request. Always use the relevant exposure scenarios that correspond to your identified use.

Waste treatment methods:

Provisions relating to waste:

European Union: Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997. Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC). 16 05 06* (gases in pressure containers and discarded chemicals: laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals). Depending on branch of industry and production process, also other waste codes may be applicable.

[cont...]

SAFETY DATA SHEET

Potassium Iodate

Issued: 08/04/2019

Page 10

Disposal methods: Precipitate/make insoluble. Remove to an authorised dump (Class I). Remove to an authorised incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Remove waste in accordance with local and/or national regulations. Hazardous waste should not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Treat using the best available techniques before discharge into drains or the aquatic environment.

Packaging/Container:

European Union: Waste material code packaging (Directive 2008/98/EC).
15 01 10* (packaging containing residues of or contaminated by dangerous substances).

14. TRANSPORT INFORMATION

In accordance with ADR, RID, ADN, IMDG and IATA.

UN number: UN1479
UN Proper shipping name: OXIDIZING SOLID N.O.S (Potassium Iodate)
Transport hazard class (es): 5.1
Hazard identification number: 50
Classification code: O2
Packing group: II
Labels: 5.1
Environmental hazards: No
Special precautions for the user: Special provisions: 274
Limited quantities: Combination packaging's: not more than 1 kg per inner packaging for solids. A package shall not weigh more than 30 kg (gross mass).
IMDG Special provisions: 900
IATA Special provisions: A3
IATA Passenger and cargo transport: Limited quantities: maximum net quantity per packaging: 2.5 kg

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

15. REGULATORY INFORMATION

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

European legislation:

VOC content Directive 2010/75/EU:

VOC content	Remark
	Not applicable (inorganic)

National legislation – Belgium: No data available.

National legislation - The Netherlands: Waterbezwaarlijkheid B (5); Algemene Beoordelingsmethodiek (ABM).

[cont...]

SAFETY DATA SHEET

Potassium Iodate

Issued: 08/04/2019

Page 11

National legislation - France: No data available.

National legislation – Germany: WGK: 1; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) – 18 April 2017 TA-Luft: 5.2.1

National legislation – United Kingdom: No data available.

Other relevant data: No data available.

Chemical Safety Assessment: A Chemical Safety Assessment has been performed.

Note: The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

ANNEX:

Acronyms:

@ - at

> - less than

< - more than

ADR – European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS – Chemical Abstracts Service

Cat. – Category

CSA – Chemical Safety Assessment

DNEL – Derived No-Effect Level

EC – Effective Concentration

EC OEL – European Commission Occupational Exposure Limit

EINECS - European Inventory of Existing Commercial Chemical Substances

GHS – Globally Harmonized System of Classification and Labelling of Chemicals

H** - Hazard Statements

IATA – International Air Transport Association

IMDG – International Maritime Code for Dangerous Goods

L – Litre

LC50 – Lethal Concentration, 50 percent

LD50 – Lethal dose, 50 percent

m³ – metre squared

mg – milligram

ml – millilitre

n.o.s. – Not Otherwise Specified

oC – degrees Centigrade

P** - Precautionary Statements

PBT – Persistent, Bioaccumulative and Toxic

[cont...]

SAFETY DATA SHEET

Potassium Iodate

Issued: 08/04/2019

Page 12

pH – Potential of Hydrogen

PNEC – Predicted No-Effect Level

RID – Regulations Concerning the International Transport of Dangerous Goods by Rail

SDS – Safety Data Sheet

SG – specific gravity

UN – United Nations

vPvB – very Persistent, very Bioaccumulative

Legal disclaimer:

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.