

# HazTech Systems, Inc.

## SAFETY DATA SHEET

Revision number: 2 Revision date: 07/06/2015

#### 1. IDENTIFICATION

Product name: Potassium iodide/Iodine (mixture)

Product code: RE2340
Synonyms: Not available

CAS: 7681-11-0/7553-56-2

RTECS # TT2975000/NN1575000

CI#: Not available

**Recommended use:** Laboratory chemicals, Manufacture of substances

Uses advised against: No information available

Company:

HazTech Systems, Inc. 4996 Gold Leaf Dr Mariposa, CA 95338 U.S.A.

Telephone:

1-800-543-5487 / 1-209-966-8088

Fax:

1-209-966-8089 e-mail:

sales@hazcat.com www.hazcat.com Chemical Emergencies:

HazTech Systems, Inc. (8:00am - 5:00pm) PST

1-800-543-5487

Transportation Emergencies:

Chemtrec 24-Hour 1-800-424-9300 (U.S.A.) 1-703-527-3887 (International)

## 2. HAZARD(S) IDENTIFICATION

## Classification of the substance or mixture

## GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302 Acute toxicity, Dermal (Category 4), H312

Skin irritation (Category 2), H315 Eye irritation (Category 2A), H319

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335 Specific target organ toxicity - repeated exposure, Oral (Category 1), Thyroid, H372

Acute aquatic toxicity (Category 1), H400

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

#### GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H302 + H312 Harmful if swallowed or in contact with skin. H312 + H332 Harmful in contact with skin or if inhaled

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

H372 Causes damage to organs (Thyroid) through prolonged or repeated exposure if swallowed.

H400 Very toxic to aquatic life.

Precautionary statement(s)

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.
P280 Wear protective gloves/ protective clothing.

Potassium iodide/Iodine (mixture) **Revision Date** 07/06/15

## HAZARDS IDENTIFICATION

P302 + P352IF ON SKIN: Wash with plenty of soap and water.

P302 + P352 + P312 IF ON SKIN: Wash with plenty of soap and water. Call a POISON

CENTER or doctor/ physician if you feel unwell.

P304 + P340 + P312IF INHALED: Remove victim to fresh air and keep at rest in a position

> comfortable for breathing. Call a POISON CENTER or docto r/ physician if

vou feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing.

Get medical advice/ attention if you feel unwell. P314 P332 + P313If skin irritation occurs: Get medical advice/ attention. P337 + P313 If eye irritation persists: Get medical advice/ attention. P362 Take off contaminated clothing and wash before reuse.

Collect spillage. P391

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

P405 Store locked up.

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

Hazards not otherwise classified (HNOC) or not covered by GHS - none

#### COMPOSITION/INFORMATION ON INGREDIENTS

## **Mixtures**

**Substances** 

Formula ΙK

Molecular weight 166.00 g/mol CAS -No. 7681-11-0 EC-No. 231-659-4

## Hazardous components

Component	Classification	Concentration
Potassium iodide		
	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; H302, H315, H319	3%

#### Substances

Formula

Molecular weight 253.81 g/mol CAS -No. 7553 - 56 - 2 EC-No. 231 -442 -4 Index -No. 053 -001 -00 -3

## Hazardous components

Component	Classification	Concentration
Iodine		
	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; STOT RE 1; Aquatic Acute 1; H312 + H332, H315, H319, H335, H372, H400	<1%

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

## FIRST AID MEASURES

#### Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

## If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

## In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4. FIRST AID MEASURES

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**Revision Date** 07/06/15

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

No data available

#### 5. FIREFIGHTING MEASURES

#### Extinguishing media

## Suitable extinguishing media

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

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

Hydrogen iodide, Potassium oxides

#### Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### Further information

The product itself does not burn.

#### 6. ACCIDENTAL RELEASE MEASURES

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

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

#### **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

#### Reference to other sections

For disposal see section 13.

#### 7. HANDLING AND STORAGE

## Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.

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

Keep container tightly closed in a dry and well-ventilated place.

Handle and store under inert gas. Hygroscopic.

Storage class (TRGS 510) : Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

## Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated

#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

Components with workplace control parameters

Component	CAS -No.	Value	Control parameters	Basis
Potassium iodide	7681 -11 -0	TWA	0.010000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Hypothyroid	ratory Tract irritatio	on
		TWA	0.010000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract irritation Hypothyro idism Not classifiable as a human carcinogen varies		

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Revision Date** 07/06/15

## Personal protective equipment

## Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm Break through time : 480 min

Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm Break through time : 480 min

Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### **Body Protection**

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

## Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Do not let product enter drains.

## Control parameters

## Components with workplace control parameters

Component	CAS -No.	Value	Control parameters	Basis	
Iodine	7553 -56-2	CEIL	0.100000 ppm 1.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)	
		С	0.100000 ppm 1.000000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z -1 Limits for Air Contaminants	
	Remarks		The value in mg/m3 is approximate.  Ceiling limit is to be de termined from breathing -zone air samples.		
		С	0.1 ppm 1 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z -1 Limits for Air Contaminants	
			The value in mg/m3 is approximate.		
			limit is to be determined from breathing -zone air samples.		
		С	0.100000 ppm 1.000000 mg/m3	USA. NIOSH Recommended Exposure Limits	
		TWA	0.010000 ppm	USA. ACGIH Threshold Limit Values (TLV)	

## EXPOSURE CONTROLS/PERSONAL PROTECTION

Upper Respiratory Tract irritation		
Hypothyroidism		
Not classifiable as a human carcinogen		
TWA	0.010000 ppm	USA. ACGIH Threshold Limit Values
	11	(TLV)
Upper Respiratory Tract irritation		
Hypothyroidism		
Not classifiable as a human carcinogen		
STEL	0.100000 ppm	USA. ACGIH Threshold Limit Values
		(TLV)
Upper Respiratory Tract irritation		
Hypothyroidism		
Not classifiable as a human carcinogen		
STEL	0.100000 ppm	USA. ACGIH Threshold Limit Values
		(TLV)
Upper Respira	tory Tract irritation	
Hypothyroidism		
Not classifiable as a human carcinogen		

**Revision Date** 07/06/15

#### Exposure controls

## Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

## Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubb er

Minimum layer thickness: 0.11 mm Break through time : 480 min

Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm Break through time : 480 min

Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### **Body Protection**

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

## Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Potassium iodide/Iodine (mixture)

Revision Date 07/06/15

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

a) Appearance Form: Liquid

Colour: Yellow, orange

b) Odour pungent

c) Odour Threshold No data available

d) pH 5.4

e) Melting point/freezing Melting point/range: 113 °C (235 °F) - lit.

point

f) Initial boiling point and 184 °C (363 °F) - lit.

boiling range

g) Flash point No data available
h) Evaporation rate No data available
i) Flammability (solid, gas) No data available
j) Upper/lower No data available

flammability or explosive limits

k) Vapour pressure 0.41 hPa (0.31 mmHg) at 25 °C (77 °F)

l) Vapour density 8.76 - (Air = 1.0) m) Relative density 4.930 g/cm<sup>3</sup>

n) Water solubility 0.3 g/l at 25 °C (77 °F) - slightly soluble

o) Partition coefficient: n - log Pow: 2.49 at 20 °C (68 °F)

octanol/water

p) Auto-ignition No data available

temperature

q) Decomposition No data available

temperature

r) Viscosity No data available s) Explosive properties No data available t) Oxidizing properties No data available

## Other safety information

Potassium iodide: Bulk density 1,700 kg/m3 Iodine: Relative vapour density 8.76 - (Air = 1.0)

## 10. STABILITY AND REACTIVITY

## Potassium iodide

#### Reactivity

No data available

## Chemical stability

May decompose on exposure to air and moisture.

Stable under recommended storage conditions.

#### Possibility of hazardous reactions

No data available

#### Conditions to avoid

Tin/tin oxides

## Incompatible materials

Strong reducing agents, Nickel, Strong acids, and its alloys, Steel (all types and surface treatments), Aluminum, Alkali metals, Brass, Magnesium, Zinc, cadmium, Copper

## Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

## Iodine

#### Reactivity

No data available

#### Chemical stability

Stable under recommended storage conditions.

## Possibility of hazardous reactions

No data available

#### Conditions to avoid

No data available

## 10. STABILITY AND REACTIVITY

#### Iodine (cont'd.)

#### Incompatible materials

Rubber, Plastics, Iron and iron salts., Sulphur compounds, Ammonia, Magnesium, Zinc, Aluminum, Metals, Alkalis, Antimony salts, Arsenites, bromides, chlorides, iodides, thiocyanates, ferrous salts, hypophosphites, morphine salts, oils, creosote, phosphates, tannins, tartrates, Mixing iodine, antimony, and ammonia resulted in an explosion. A violent reaction occurs between iodine and acetaldehyde., Acetylene, Acetaldehyde, Strong oxidizing agents

**Revision Date** 07/06/15

#### Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

#### 11. TOXICOLOGICAL INFORMATION

#### Information on toxicological effects

## Potassium iodide

#### Acute toxicity

LD50 Oral - Mouse - 1,000 mg/kg Inhalation : No data available Dermal : No data available

No data available

#### Skin corrosion/irritation

Skin - Rabbit

Result: Irritating to skin.

#### Serious eye damage/eye irritation

Eves - Rabbit

Result: Irritating to eyes. - 24 h

(Draize Test)

#### Respiratory or skin sensitisation

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

#### Germ cell mutagenicity

No data available

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as

probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a

known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a

carcinogen or po tential carcinogen by OSHA.

## Reproductive toxicity

Exposure to excessive amounts of iodine during pregnancy is capable of producing fetal hypothyroidism. Iodine-containing drugs have been associated with fetal goiter.

No data available

#### Specific target organ toxicity - single exposure

No data available

#### Specific target organ toxicity - repeated exposure

No data available

#### Aspiration hazard

No data available

#### **Additional Information**

RTECS: TT2975000

Prolonged exposure to iodides may produce iodism in sensitive individuals. Symptoms of exposure include: skin rash, running nose, headache and irritation of the mucous membrane. For severe cases the skin may show pimples, boils, hives, blisters and black and blue spots. Iodides are readily diffused across the placenta. Neonatal deaths from respiratory distress secondary to goiter have been reported. Iodides have been known to cause drug-induced fevers, which are usually of short duration.

Liver - Irregularities - Based on Human Evidence

Liver - Irregularities - Based on Human Evidence

#### 11. TOXICOLOGICAL INFORMATION

## **Iodine**

## Acute toxicity

LD50 Oral - Rat - 14,000 mg/kg

Remarks: Diarrhoea

LC50 Inhalation - Rat - 4 h - > 4.588 mg/l

(OECD Test Guideline 403)

Remarks: Cough Respiratory disorder LC50 Dermal - Rat - male - 1,425 mg/kg

(OPPTS 870.1200) No data available

#### Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE)

Result : Moderate skin irritation Serious eye damage/eye irritation

Moderate eye irritation

#### Respiratory or skin sensitisation

- Mouse

Result: Does not cause skin sensitisation.

(OECD Test Guideline 429)

## Germ cell mutagenicity

Hamster Embryo

Result: negative

Mutagenicity (micronucleus test) Mouse - male and female

Result : negative Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as

probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a

known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a

carcinogen or potential carcinogen by OSHA.

## Reproductive toxicity

No data available

No data available

#### Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation. - Respiratory system

#### Specific target organ toxicity - repeated exposure

Oral - Causes damage to organs through prolonged or repeated exposure. - Thyroid

## Aspiration hazard

No data available

#### Additional Information

RTECS: NN1575000

Prolonged exposure to iodides may produce iodism in sensitive individuals. Symptoms of exposure include: skin rash, running nose, headache and irritation of the mucous membrane. For severe cases the skin may show pimples, boils, hives, blisters and black and blue spots. Iodides are readily diffused across the placenta. Neonatal deaths from respiratory distress secondary to goiter have been reported. Iodides have been known to cause drug-induced fevers, which are usually of short duration.

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

## 12. ECOLOGICAL INFORMATION

#### **Toxicity**

**Potassium iodide:** EC50 - Daphnia (water flea) - 2.7 mg/l - 24 h

**Iodine:** LC50 - Oncorhynchus mykiss (rainbow trout) - 1.7 mg/l - 96.0 h

Toxicity to daphnia and

other aquatic invertebrates Toxicity to algae

Potassium iodide: Not available

**Iodine:** EC50 - Daphnia magna (Water flea)

**Iodine:** Growth inhibition EC50 - Desmodesmus subspicatus (green algae) - 0.13 mg/l

-0.2 mg/I - 48 h

**Revision Date** 07/06/15

(OECD Test Guideline 201 )

8 of 10

Potassium iodide/Iodine (mixture)

Revision Date 07/06/15

## 12. ECOLOGICAL INFORMATION

#### Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

#### Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects

Potassium iodideNo data availableIodineVery toxic to aquatic life.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## 13. DISPOSAL CONSIDERATIONS

## Waste treatment methods

#### **Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

#### Contaminated packaging

Dispose of as unused product.

#### 14. TRANSPORT INFORMATION

Potassium iodide	<u>Iodine</u>	
DOT (US)	DOT (US)	
Not dangerous goods	UN number: 3495 Class : 8 (6.1) Page	cking group : III
IMDG	Proper shipping name : Iodine	
Not dangerous goods	Reportable Quantity (RQ):	
IATA	Poison Inhalation Hazard : No	
Not dangerous goods	IMDG	
	UN number: 3495 Class: 8 (6.1) Page	cking group : III EMS-No: F-A, S-B
	Proper shipping name : IODINE	
	Marine pollutant:yes	
	IATA	
	UN number: 3495 Class: 8 (6.1) Page	cking group : III
	Proper shipping name : Iodine	

## 15. REGULATORY INFORMATION

## **SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

## **SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

## SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

#### Massachusetts Right To Know Components

Potassium iodide: Not a component subject to the Massachusetts Right to Know Act.

	CAS -No.	Revision Date
Iodine	7553 -56-2	2007 -03 -01
Pennsylvania Right To Know Components		
	CAS -No.	Revision Date
Potassium iodide	7681 -11 -0	
Iodine	7553 -56 -2	2007 -03 -01
New Jersey Right To Know Components		
	CAS -No.	Revision Date
Potassium iodide	7681 -11 -0	
Iodine	7553 -56-2	2007 -03 -01

#### California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

## 16. OTHER INFORMATION

## Full text of H-Statements referred to under sections 2 and 3.

Acute Tox. Acute toxicity
Aquatic Acute Acute aquatic toxicity

Eye Irrit. Eye irritation Skin Irrit. Skin irritation

H312 Harmful in contact with skin.

H312 + H332 Harmful in contact with skin or if inhaled

H315 Causes skin irritation. H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H372 Causes damage to organs through prolonged or repeated exposure if swallowed.

Revision Date 07/06/15

H400 Very toxic to aquatic life.

**HMIS Rating** 

Health hazard : 2 Chronic Health Hazard : \* Flammability : 0 Physical Hazard 0

NFPA Rating

Health hazard : 2
Fire Hazard : 0
Reactivity Hazard : 0

**Revision Date:** 07/06/2015

Prepared by: HazTech Systems, Inc.

This information is based on HazTech Systems, Inc.'s, current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.