

SAFETY DATA SHEET

Issue Date 17-May-2021	Revision Date 26-Jan-2024	Version 2.5	Page 1 / 14
	1. IDENTIFICATI	ON	
Product identifier			
Product Name	lodine Standard Solution 0.0282 N		
Other means of identification			
Product Code(s)	2333353		
Safety data sheet number	M01243		
Recommended use of the che	emical and restrictions on use		
Recommended Use	Standard solution. Water Analysis.		
Uses advised against	None.		
Restrictions on use	None.		
Details of the supplier of the safety data sheet			
Manufacturer Address			

Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Specific target organ toxicity	(repeated exposure)	Category 1

Hazards not otherwise classified (HNOC) Not applicable

Label elements

Signal word Danger



Hazard statements H372 - Causes damage to organs through prolonged or repeated exposure

Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P314 - Get medical advice/attention if you feel unwell
P501 - Dispose of contents/ container to an approved waste disposal plant

Other Hazards Known

Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance Not applicable

<u>Mixture</u>

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
Potassium iodide (KI)	7681-11-0	1 - 5%	-
lodine	7553-56-2	<1%	-
Phosphoric acid, disodium salt	7558-79-4	<0.1%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.		
Inhalation	Remove to fresh air.		
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.		
Skin contact	Wash skin with soap and water.		
Ingestion	Clean mouth with water and drink afterwards plenty of water.		
Most important symptoms and effects, both acute and delayed			
Symptoms	See Section 11 for additional Toxicological Information.		
Indication of any immediate medical attention and special treatment needed			
Note to physicians	Treat symptomatically.		

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	Caution: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	No information available.

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Hazardous combustion products	Potassium oxides. Iodine compounds.			
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.			
	6. ACCIDENTAL RELEASE MEASURES			
U.S. Notice	Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.			
Personal precautions, protective eq	uipment and emergency procedures			
Personal precautions	Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas.			
Other Information	Refer to protective measures listed in Sections 7 and 8.			
Environmental precautions				
Environmental precautions	See Section 12 for additional ecological information.			
Methods and material for containme	ent and cleaning up			
Methods for containment	Prevent further leakage or spillage if safe to do so.			
Methods for cleaning up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.			
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.			
Reference to other sections	See section 8 for more information. See section 13 for more information.			
	7. HANDLING AND STORAGE			

Precautions for safe handling				
Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation.			
Conditions for safe storage, including any incompatibilities				
Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place.			
Flammability class	Not applicable			

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Potassium iodide (KI)	TWA: 0.01 mg/m ³ l inhalable	NDF	NDF

CAS#: 7681-11-0	particulate matter S*		
lodine CAS#: 7553-56-2	TWA: 0.001 ppm I inhalable fraction and vapor S*	(vacated) Ceiling: 0.1 ppm (vacated) Ceiling: 1 mg/m ³ Ceiling: 0.1 ppm Ceiling: 1 mg/m ³	IDLH: 2 ppm Ceiling: 0.1 ppm Ceiling: 1 mg/m ³

Appropriate engineering controls Engineering Controls

Showers Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment		
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.	
Hand Protection	Wear suitable gloves.	
Eye/face protection	Wear safety glasses with side shields (or goggles).	
Skin and body protection	No special protective equipment required.	
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice.	
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.	
Thermal hazards	None under normal processing.	

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Appearance Odor	aqueous solution Odorless	Liquid	Color Odor threshold	dark red No data avai	ilable
Property_			Values		Remarks • Method
Molecular weight		No data available			
рН		6.3		@ 20 °C	
Melting point / freezing point		~ -1 °C / 30.2 °F			
Initial boiling point and boiling range		~ 100 °C / 212 °F			
Evaporation rate		1.02 (water = 1)			
Vapor pressure			23.627 mm Hg / 3.15 kPa at 2	25 °C / 77 °F	
Relative vapor de	ensity		0.62		
Specific gravity -	VALUE 1		1.03		
Partition coefficie	ent		Not applicable		
Soil Organic Carl Coefficient	bon-Water Partition		Not applicable		
Autoignition tem	perature		No data available		

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Decomposition temperature	No data available
Dynamic viscosity	No data available
Kinematic viscosity	No data available

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	<u>Solubility</u>	Solubility Temperature
None reported	No information available	No data available	No information available

Other information

Metal Corrosivity

Steel Corrosion Rate Aluminum Corrosion Rate

No data available No data available

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Potassium iodide (KI)	7681-11-0	Not applicable	-
lodine	7553-56-2	No data available	-
Phosphoric acid, disodium salt	7558-79-4	No data available	-

Explosive properties

Upper explosion limit Lower explosion limit	No data available No data available
Flammable properties	
Flash point	No data available
Flammability Limit in Air Upper flammability limit: Lower flammability limit:	No data available No data available
Oxidizing properties	No data available.
Bulk density	No data available

10. STABILITY AND REACTIVITY

Reactivity Not applicable.

EN / AGHS

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<u>Chemical stability</u> Stable under normal conditions.

Explosion data Sensitivity to Mechanical Impact None. Sensitivity to Static Discharge None.

Possibility of hazardous reactions

None under normal processing.

<u>Hazardous polymerization</u> None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong oxidizing agents, strong acids, and strong bases.

Hazardous decomposition products

Potassium oxide. Iodine compounds.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	No known effect based on information supplied.
Eye contact	No known effect based on information supplied.
Skin contact	No known effect based on information supplied.
Ingestion	No known effect based on information supplied.
Symptoms	No information available.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

No data available.

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (1 - 5%)	Rat LD₅₀	2779 mg/kg	None reported	None reported	RTECS
CAS#: 7681-11-0					

Dermal Exposure Route

Inhalation (Dust/Mist) Exposure Route

Inhalation (Vapor) Exposure Route

EN / AGHS

Unknown Acute Toxicity

0.01% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	No information available
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
lodine (<1%) CAS#: 7553-56-2	OECD Test 439: In Vitro Skin Irritation: Reconstructed Human Epidermis (Rhe) Test Method	reported	10 mg	15 minutes	Not corrosive or irritating to skin	ECHA
Phosphoric acid, disodium salt (<0.1%) CAS#: 7558-79-4	Standard Draize Test	Rabbit	500 mg	24 hours	Skin irritant	RTECS

Serious eye damage/irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
lodine (<1%) CAS#: 7553-56-2	Existing human experience	Human	None reported	None reported	Eye irritant	ChemADVISOR
Phosphoric acid, disodium salt (<0.1%) CAS#: 7558-79-4	Standard Draize Test	Rabbit	500 mg	24 hours	Eye irritant	RTECS

Respiratory or skin sensitization

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Potassium iodide (KI) (1 - 5%) CAS#: 7681-11-0	Patch test	Human	Not confirmed to be a skin sensitizer	ERMA

STOT - single exposure

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint	Reported	Exposure	Toxicological effects	Key literature references and
	type	dose	time		sources for data
Potassium iodide (KI)	Mouse	1862 mg/kg	None reported	Lungs, Thorax, or	RTECS
(1 - 5%)	LDLo			Respiration	
CAS#: 7681-11-0				Dyspnea	

STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (1 - 5%) CAS#: 7681-11-0	Rat NOAEL	0.5 mg/kg	90 days	None reported	ECHA

Carcinogenicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Potassium iodide (KI)	7681-11-0	-	-	-	-
lodine	7553-56-2	-	-	-	-
Phosphoric acid, disodium	7558-79-4	-	-	-	-

salt			

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA	Does not apply

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Mixture invitro Data

No data available.

Substance invitro Data

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium iodide (KI) (1 - 5%) CAS#: 7681-11-0	Cytogenetic analysis	Rat ascites tumor	500 mg/kg	None reported	Positive test result for mutagenicity	RTECS
lodine (<1%) CAS#: 7553-56-2	Chromosomal abberation	Syrian hamster embryo	0.4 mmol/L	None reported	Positive test result for mutagenicity	CCRIS

Mixture invivo Data

No data available.

Substance invivo Data

No data available.

Reproductive toxicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Reproductive Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (1 - 5%) CAS#: 7681-11-0	Human TD∟₀	2700 mg/kg	39 weeks	Specific Developmental Abnormalities Endocrine System	RTECS
lodine (<1%) CAS#: 7553-56-2	Rat TD⊾₀	2750 mg/kg	22 days	Effects on Newborn Delayed effects Growth statistics (e.g. stunted fetus)	RTECS

Aspiration hazard

Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

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Ecotoxicity

Unknown aquatic toxicity

Based on available data, the classification criteria are not met.

0.01% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

<u>Mixture</u>

Aquatic Acute Toxicity No data available.

Aquatic Chronic Toxicity No data available.

Substance

Aquatic Acute Toxicity No data available.

Aquatic Chronic Toxicity No data available.

Persistence and degradability

Mixture No data available.

Bioaccumulation MATERIAL DOES NOT BIOACCUMULATE **Mixture** No data available.

Partition coefficient

Mobility

Soil Organic Carbon-Water Partition Coefficient

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Not applicable

Not applicable

Waste treatment methods	
Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.
Special instructions for disposal	Dilute to 3 to 5 times the volume with cold water. Open cold water tap completely, slowly pour the material to the drain. Flush system with plenty of water.
	14. TRANSPORT INFORMATION
DOT	Not regulated
TDG	Not regulated

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IATA	Not regulated
IMDG	Not regulated
Note:	No special precautions necessary.

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

National Inventories	
TSCA	Complies
DSL/NDSL	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory **DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances **ENCS** - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TCSI - Taiwan Chemical Substances Inventory

AICS - Australian Inventory of Chemical Substances

NZICC New Zealand Inventory of Chemical Substance

NZIOC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Phosphoric acid, disodium	5000 lb	-	-	Х

7558-79-4					
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CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Phosphoric acid, disodium salt	5000 lb	-	RQ 5000 lb final RQ
7558-79-4			RQ 2270 kg final RQ

U.S. - DEA (Drug Enforcement Administration) List I & List II

Chemical name	U.S DEA (Drug Enforcement Administration) - List I or Precursor Chemicals	U.S DEA (Drug Enforcement Administration) - List II or Essential Chemicals
lodine (<1%) CAS#: 7553-56-2	No threshold has been established	Not Listed

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
lodine 7553-56-2	Х	X	Х
Phosphoric acid, disodium salt 7558-79-4	Х	X	Х

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Potassium iodide (KI)	180.0940	21 CFR 184.1634
Iodine	180.0940	-
Phosphoric acid, disodium salt	180.0910	21 CFR 182.1778,21 CFR 182.6290,21
		CFR 182.6778,21 CFR 182.8778

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments None

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
lodine 7553-56-2	Declarable Substance (LR) Prohibited Substance (LR)	None reported

NFPA and HMIS Classifications

NFPA	Health hazards - 0	Flammability - 0	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - 1*	Flammability - 0	Physical hazards - 0	Personal protection -
		-	-	X
				- 1

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

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealands Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite [™]
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident
HSDB INERIS IPCS INCHEM IUCLID NITE NIH NIOSH LOLI NDF NICNAS NIOSH IDLH OSHA PEEN RTECS SIDS SYKE USDA USDC WHO	Insurance) HSDB (Hazardous Substances Data Bank) INERIS (The National Industrial Environment and Risks Institute) IPCS INCHEM (International Programme on Chemical Safety) IUCLID (The International Uniform Chemical Information Database) Japan National Institute of Technology and Evaluation (NITE) NIH (National Institute of Technology and Evaluation (NITE) NIH (National Institute of Health) NIOSH (National Institute for Occupational Safety and Health) LOLI (List of Lists - An International Chemical Regulatory Database) no data Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS) Immediately Dangerous to Life or Health OSHA (Occupational Safety and Health Administration of the US Department of Labor) PEEN (Pan European Ecological Network) RTECS (Registry of Toxic Effects of Chemical Substances) SIDS (Screening Information Dataset) for High Volume Chemicals The Finnish Environment Institute (SYKE) USDA (United States Department of Agriculture) USDC (United States Department of Commerce) WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
Х	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN* RSP+ C	Skin designation Respiratory sensitization Carcinogen	SKN+ ** R	Skin sensitization Hazard Designation Reproductive toxicant

Μ	mutagen	
Prepared By		Hach Product Compliance Department
Issue Date		17-May-2021
Revision Date		26-Jan-2024
Revision Note		None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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End of Safety Data Sheet