



SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Date of issue: 05/15/2014

Version 1.0

SECTION 1. Identification

Product identifier

Product number	IX0120
Product name	Iodine GR ACS
CAS-No.	7553-56-2

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

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

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

GHS Classification

Acute toxicity, Category 4, Inhalation, H332
Acute toxicity, Category 4, Dermal, H312
Eye irritation, Category 2, H319
Skin irritation, Category 2, H315
Specific target organ systemic toxicity - repeated exposure, Category 1, Oral, thyroid, H372
Specific target organ systemic toxicity - single exposure, Category 3, Inhalation, Respiratory system, H335
Acute aquatic toxicity, Category 1, H400

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

GHS-Labeling

Hazard pictograms



Signal Word
Danger

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Hazard Statements

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 Statements

P273 Avoid release to the environment.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 Get medical advice/ attention if you feel unwell.

OSHA Hazards

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS and may deviate from the GHS information.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Formula	I ₂ (Hill)
Molar mass	253.8 g/mol

Hazardous ingredients

Chemical Name (Concentration)

CAS-No.

Iodine (>= 90 % - <= 100 %)

7553-56-2

Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

Inhalation

After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.

Skin contact

After skin contact: wash off with plenty of water. Remove contaminated clothing. Call a physician immediately.

Eye contact

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

Ingestion

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

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Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

irritant effects, conjunctivitis, Asthma, bronchitis, Allergic reactions, Dermatitis, Skin disorders, Fever, bloody diarrhea, collapse, rhinitis, metallic taste

Indication of any immediate medical attention and special treatment needed

Laxative: Sodium sulfate (1 tablespoon/1/4 l water).

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

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

Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapors.

Fire may cause evolution of:

hydrogen iodide

Advice for firefighters

Special protective equipment for fire-fighters

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

Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions

Do not empty into drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7. Handling and storage

Precautions for safe handling

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Observe label precautions.

Work under hood. Do not inhale substance/mixture.

Conditions for safe storage, including any incompatibilities

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Store at room temperature.

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Ingredients

Basis	Value	Threshold limits	Remarks
<i>Iodine 7553-56-2</i>			
ACGIH	Time Weighted Average (TWA):	0.01 ppm	Form of exposure: Inhalable fraction and vapor.
	Short Term Exposure Limit (STEL):	0.1 ppm	Form of exposure: Vapor and aerosol.
NIOSH/GUIDE	Ceiling Limit Value and Time Period (if specified):	0.1 ppm 1 mg/m ³	
OSHA_TRANS	Ceiling Limit Value:	0.1 ppm 1 mg/m ³	
Z1A	Ceiling Limit Value:	0.1 ppm 1 mg/m ³	

Engineering measures

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

Individual protection measures

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

Hygiene measures

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

Eye/face protection

Safety glasses

Hand protection

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.

Other protective equipment:

protective clothing

Respiratory protection

required when dusts are generated.

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Use a properly fitted, air-purifying or air-fed 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

Physical state	solid
Color	dark violet
Odor	stinging
Odor Threshold	No information available.
pH	5.4 (saturated solution)
Melting point	114 °C
Boiling point/boiling range	365 °F (185 °C) at 1,013 hPa
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Vapor pressure	0.41 hPa at 77 °F (25 °C)
Relative vapor density	8.8
Density	4.93 g/cm ³ at 68 °F (20 °C)
Relative density	No information available.
Water solubility	0.3 g/l at 68 °F (20 °C)
Partition coefficient: n-octanol/water	log Pow: 2.49 (experimental) Bioaccumulation is not expected. (Lit.)
Autoignition temperature	No information available.

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Decomposition temperature	No information available.
Viscosity, dynamic	2.27 mPa.s at 241 °F (116 °C)
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Bulk density	ca.2,100 kg/m ³
Viscosity, kinematic	0.57 mm ² /s at 241 °F (116 °C) liquid

SECTION 10. Stability and reactivity

Reactivity

See below

Chemical stability

sublimable

Possibility of hazardous reactions

Risk of explosion with:

Risk of ignition or formation of inflammable gases or vapors with:

Exothermic reaction with:

Alkali metals, Ammonia, ammonium compounds, nonmetallic oxides, nonmetals, halogen-halogen compounds, acetylidene, semimetals, Aluminum, Acetylene, carbides, Fluorine, magnesium, lithium silicide, azides, turpentine oils and/or turpentine substitutes, alkali oxides, Powdered metals

Conditions to avoid

Strong heating.

Incompatible materials

no information available

Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact, Ingestion

Target Organs

Eyes

Skin

Respiratory system

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Product name

Iodine GR ACS

Central nervous system
cardiovascular system

Acute oral toxicity

LD50 rat: 14,000 mg/kg (RTECS)

absorption

Symptoms: metallic taste, bloody diarrhea, Circulatory collapse

Acute inhalation toxicity

LC50 rat: > 4.588 mg/l; 4 h

OECD Test Guideline 403

absorption

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Acute dermal toxicity

LD50 rabbit: 1,425 mg/kg

US-EPA

absorption

Skin irritation

In vitro study

Result: non-corrosive

OECD Test Guideline 435

In vitro study

OECD Test Guideline 439 Causes skin irritation.

Eye irritation

Causes serious eye irritation.

Sensitization

In animal experiments: mouse

Result: Does not cause skin sensitization.

Method: OECD Test Guideline 429

Repeated dose toxicity

(as aqueous solution)

Genotoxicity in vitro

Mutagenicity (mammal cell test):

MOUSE LYMPHOMA TEST

Result: negative

Method: OECD Test Guideline 476

UDS (Unscheduled DNA synthesis assay)

Result: negative

Method: OECD Test Guideline 482

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Specific target organ systemic toxicity - single exposure

Inhalation

Target Organs: Respiratory system

May cause respiratory irritation.

Specific target organ systemic toxicity - repeated exposure

Ingestion

Target Organs: thyroid

Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC

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

OSHA

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information

Systemic effects:

After uptake:

Fever

Chronic intoxication:

Skin disorders, Allergic reactions, rhinitis, conjunctivitis, bronchitis, Asthma

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish

static test LC50 *Oncorhynchus mykiss* (rainbow trout): 1.67 mg/l; 96 h (ECHA)

Toxicity to daphnia and other aquatic invertebrates

static test EC50 *Daphnia magna* (Water flea): 0.55 mg/l; 48 h (ECHA)

Toxicity to algae

Growth inhibition ErC50 *Desmodesmus subspicatus* (green algae): 0.13 mg/l; 72 h

OECD Test Guideline 201

Growth inhibition NOEC *Desmodesmus subspicatus* (green algae): 0.025 mg/l; 72 h

OECD Test Guideline 201

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Toxicity to bacteria

EC50 activated sludge: 280 mg/l; 3 h
OECD Test Guideline 209

Persistence and degradability

Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: 2.49
(experimental)

Bioaccumulation is not expected. (Lit.)

Mobility in soil

No information available.

Additional ecological information

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

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

SECTION 14. Transport information

Land transport (DOT)

UN number	UN 3495
Proper shipping name	IODINE
Class	8 (6.1)
Packing group	III
Environmentally hazardous	--

Air transport (IATA)

UN number	UN 3495
Proper shipping name	IODINE
Class	8 (6.1)
Packing group	III
Environmentally hazardous	--
Special precautions for user	no

Sea transport (IMDG)

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UN number	UN 3495
Proper shipping name	IODINE
Class	8 (6.1)
Packing group	III
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-A S-B

SECTION 15. Regulatory information

United States of America

OSHA Hazards

Target organ effects
Corrosive to skin
Corrosive to eyes
Harmful if inhaled.
Harmful if swallowed.
Harmful in contact with skin.
Corrosive to respiratory system

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

SARA 311/312 Hazards

Chronic Health Hazard

SARA 313

SARA 313: 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 302

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

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

DEA List I

Listed

Ingredients

Iodine

7553-56-2

DEA List II

Not listed

US State Regulations

Massachusetts Right To Know

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Product name

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Ingredients

Iodine

Pennsylvania Right To Know

Ingredients

Iodine

New Jersey Right To Know

Ingredients

Iodine

California Prop 65 Components

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

Notification status

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

DSL: All components of this product are on the Canadian DSL.

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

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

H312	Harmful in contact with skin.
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.
H400	Very toxic to aquatic life.

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

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

Date of issue: 05/15/2014

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

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