

SAFETY DATA SHEET (SDS)

in accordance with Regulation (EC) No 1907/2006 (REACH), Annex II — Regulation (EU) 2020/878

Date: 03.09.2026 | Version: 1 | EN

sodium bromate

sodium bromate

CAS 7789-38-0

BrNaO₃MOLAR MASS
150.89

HAZARD CLASSIFICATION (GHS / CLP)



Danger

H319 H272 H301 H341 H350 H370 H372

Non-harmonised classification (no entry in Annex VI to CLP) — assigned from aggregated ECHA C&L notifications; the H-statements require verification against the official source (ECHA C&L / manufacturer's data sheet).

1. Identification of the substance/mixture and of the company/undertaking

1.1 Substance name

1.1 IUPAC name

sodium bromate

1.1 CAS number

7789-38-0

1.1 EC number

No data

1.1 PubChem CID

23668195

1.1 InChIKey

XUXNAKZDHHEHPC-UHFFFAOYSA-M

1.1 SMILES

[O-]Br(=O)=O.[Na+]

1.1 Molecular formula

BrNaO₃ ^[7]

1.1 Molar mass

150.89 g/mol ^[7]

1.1 Exact mass

149.8929 Da ^[7]

1.2 Uses

For laboratory and research purposes. Not for use in the production of food, medicines or cosmetics without appropriate authorisation.

1.3 Details of the supplier

REFERENCE COPY — NO
SUPPLIER DETAILS — NOT FOR
DISTRIBUTION

Supplier details are not included in this reference copy. The supplier placing the substance on the market must complete this section and remains responsible for the sheet under REACH. MolGod.org prepares documentation and is not the supplier of this substance.

1.4 Emergency telephone number

Emergency telephone

112 (EU-wide emergency number)

2. Hazards identification



Danger

Hazard statements (H) ^{[3][4]}

H319	Causes serious eye irritation
H272	May intensify fire; oxidiser
H301	Toxic if swallowed
H341	Suspected of causing genetic defects
H350	May cause cancer
H370	Causes damage to organs
H372	Causes damage to organs through prolonged or repeated exposure

Precautionary statements (P) ^{[3][4]}

P201	Obtain special instructions before use
P202	Do not handle until all safety precautions have been read and understood
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P220	Keep away from clothing and other combustible materials
P260	Do not breathe dust/fume/gas/mist/vapours/spray
P264	Wash thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P280	Wear protective gloves/protective clothing/eye protection/face protection
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes; Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313	IF exposed or concerned: Get medical advice/attention
P308+P311	IF exposed or concerned: Call a POISON CENTER or doctor/physician
P314	Get medical advice/attention if you feel unwell
P330	Rinse mouth
P337+P313	If eye irritation persists: Get medical advice/attention
P370+P378	In case of fire: Use appropriate media to extinguish
P405	Store locked up
P501	Dispose of contents/container to an approved waste collection point

3. Composition/information on ingredients

Substance type	pure substance
CAS Number	7789-38-0
Molecular formula	BrNaO ₃
Concentration	≥99% (typical reagent-grade purity — to be confirmed by the supplier's specification)

4. First aid measures



Inhalation

Move the affected person to fresh air. Keep at rest. If not breathing: artificial respiration (qualified personnel only). ^{[1][2][9]}

Skin contact

Remove contaminated clothing. Rinse skin with soap and water (min. 15 minutes). ^{[1][2][9]}

Eye contact

Rinse eyes with running water (min. 15 minutes). Remove contact lenses if possible. If irritation persists — consult an ophthalmologist. ^{[1][2][9]}

Ingestion

Do NOT induce vomiting (unless directed by a physician). Rinse mouth with water. Never give anything by mouth to an unconscious person. Poison Centre Łódź: +48 42 631 47 24 (24/7). Emergency number: 112. ^{[1][2][9]}

Symptoms and effects

nausea, vomiting, diarrhoea; eye irritation and watering. ^[3]

Notes for physician

Requires verification

Emergency numbers: CIT Łódź: +48 42 631 47 24 (24/7) | Emergency: 112

5. Firefighting measures

Suitable extinguishing media	Water in LARGE quantities (cooling). Water mist. ^{[1][2][9]}
Unsuitable extinguishing media	CO ₂ and dry powder (ineffective for an oxidiser). ^{[1][2][9]}
Specific hazards	Thermal decomposition products:HBr. ^[10]
Advice for firefighters	Use self-contained breathing apparatus (SCBA). Full protective suit. ^{[1][2][9]}

6. Accidental release measures

Personal precautions	Use personal protective equipment (see Section 8). Avoid breathing dust. ^{[1][2][9]}
Environmental precautions	Prevent entry into sewers, groundwater and surface water. ^{[1][2][9]}
Methods for containment and cleaning up	Collect mechanically into suitable containers. Absorption: sand, vermiculite, diatomaceous earth. Do not sweep dry (dust formation). ^{[1][2][9]}
Related sections	8; 13

7. Handling and storage

Precautions	Work in a fume hood or with adequate ventilation. No eating, drinking or smoking in the work area. ^{[1][2][9]}
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Storage temperature	Store at room temperature (15-25°C) or as indicated on the label. ^{[1][2][9]}
Humidity	Store in a dry place (<60% RH). ^{[1][2][9]}
Light	Protect from direct sunlight. ^{[1][2][9]}
Incompatible materials	Strong oxidizers, strong acids, strong bases. ^[10]

8. Exposure controls/personal protection

8.1 Control parameters

OEL — NDS (Poland)	No NDS (OEL) value in the available working list — verify in the current MRPiPS regulation before use; do not assume the absence of a limit value.
OEL (EU)	The EU OEL value has not been verified against the available dataset — check the IOELV/BOELV directives; do not assume the absence of a value.
DNEL	No data available.
PNEC	No data available.

8.2 Personal protective equipment (PPE) ^{[5][6][13]}

 Chemical-resistant protective gloves EN ISO 374-1:2016+A1:2018 fluoroelastomer FKM (Viton), min. 0.4 mm — NOT nitrile (breakthrough within minutes)	 Closed safety spectacles or goggles EN ISO 16321-1:2022 / EN 166:2001	 Closed safety footwear with toe protection EN ISO 20345:2022 (S2/S3)
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9. Physical and chemical properties

Property (item 9.1)	Value	Source
Physical state	Solid	
Colour	No data available.	
Odour	No data available.	
pH (1% aqueous solution)	No data available.	
Melting point	381°C (experimental data) ^[7]	
Boiling point	No data available.	
Flash point	Not applicable (REACH 9.1(h))	
Flammability	No data available.	
Lower and upper explosion limit	Not applicable (REACH 9.1(g))	
Density (20°C)	3.2674 g/cm ³ ^[7]	
Vapour pressure	No data available.	
Relative vapour density	Not applicable (REACH 9.1(q))	
Kinematic viscosity	Not applicable (REACH 9.1(l))	
Refractive index n_D²⁰	1.594 (experimental data) ^[7]	
Auto-ignition temperature	No data available.	

Property (item 9.1)	Value	Source
Decomposition temperature	No data available.	
Rozpuszcz. w wodzie	No data available.	
Particle characteristics	The particle size distribution has not been determined for this commercial form – required under Annex II 9.1(r); to be completed from the supplier's specification.	
log Kow (XLogP3)	Not applicable (REACH 9.1(n))	
Molar mass	150.89 g/mol ^[7]	
Molecular formula	BrNaO ₃ ^[7]	

Where a property above reads "No data available", no measured value was found in the public sources consulted for this substance. The property has not been determined by MolGod.org and no value is inferred. "Not applicable" means the property has no meaning for this substance in the form supplied.

10. Stability and reactivity

Reactivity	Stable under normal storage and handling conditions.
Chemical stability	May undergo violent catalytic decomposition on contact with heavy metals (Mn, Fe, Cu, Cr) or contaminants. ^[10]
Hazardous reactions	Catalytic decomposition may proceed violently, releasing large amounts of oxygen, which accelerates the fire of surrounding combustible materials. ^[10]
Conditions to avoid	Temperature >50°C, UV light, heavy metals, organic contaminants. Decomposition releasing oxygen (O ₂) and heat. ^[10]
Incompatible materials	Strong oxidizers, strong acids, strong bases.
Decomposition products	Thermal decomposition products:HBr.

11. Toxicological information

LD50 (oral)	No data available.
LD50 (dermal)	No data available.
LC50 (inhalation)	No data available.
Skin irritation	No data available.
Eye irritation	Category 2 — eye irritation.
Sensitisation	No data available.
Mutagenicity	Classification from aggregated ECHA C&L notifications (non-harmonised) — requires verification; no entry in Annex VI to CLP.
Carcinogenicity	Classification from aggregated ECHA C&L notifications (non-harmonised) — requires verification; no entry in Annex VI to CLP.
IARC classification (carcinogenicity)	No individual IARC monograph — NOTE: substance classified as carcinogenic per ECHA CLP; absence of an IARC entry does NOT mean absence of carcinogenicity.
Reproductive toxicity	No data available.
STOT — single exposure	Category 1 (H370): Causes damage to organs. ^[3]
STOT — repeated exposure	Category 1 (H372): Causes damage to organs through prolonged or repeated exposure. ^[3]
Aspiration hazard	No data available.

12. Ecological information

Aquatic toxicity	EC ₅₀ (algae): 15954 mg/L (Isochrysis galbana, 72 h) ^[14]
Persistence / biodegradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
PBT/vPvB assessment	Insufficient data to assess PBT/vPvB.
Endocrine disrupting properties	No information.

13. Disposal considerations

Disposal method	Hand over for disposal to licensed contractors in accordance with national and local regulations. Do not discharge into sewers.
Waste code (EWC)	16 05 06* — Laboratory and analytical chemicals (np. chemical reagents) zawierające substancje niebezpieczne. EWC code verification required. ^[8]
Packaging	Cleaned packaging may be recycled. Contaminated packaging must be treated as hazardous waste.

14. Transport information



Class 5.1 — Oxidising substances



Class 6.1 — Toxic substances

UN number	UN 1494 ^[7]
Transport hazard class	Suggested from GHS classification — VERIFICATION REQUIRED.
Environmental hazard	Environmental hazard for transport: not verified. Non-harmonised classification (outside CLP Annex VI) — verify aquatic toxicity (Section 12) and do NOT assume marine pollutant marking is not required; confirm per ADR 2.2.9 / IMDG before shipping.
Special precautions	Handle as dangerous goods according to the assigned class (ADR/IMDG/IATA); apply the precautions appropriate to that class.
CN/HS code	CN/HS code: verification required in the Eurostat Combined Nomenclature.
Notes	UN number per the indicated source. Verify the transport class and packing group in ADR Table A / UN Model Regulations before shipment. ^[7]

15. Regulatory information

SVHC status	SVHC status not verified against the available dataset — check the current ECHA Candidate List; do not assume absence. ^[1]
REACH Annex XIV	Not verified against the ECHA Authorisation List — check REACH Annex XIV. ^[1]
REACH Annex XVII	Not confirmed in the available Annex XVII dataset — verify against the current ECHA list before placing on the market; do not assume absence of restriction. ^[1]

16. Other information

Substance type: oxidizer

Legal status of classification: supplier self-classification under Art. 4(3) CLP — no harmonised entry in Annex VI. Entries with an entry-into-force date after 03.09.2026 were omitted as future (not yet applicable).

Data aggregated automatically from public reference databases (PubChem, ECHA, NIST and others).

Scientific citations (10)

Toxicology studies of sodium bromate (CAS No. 7789-38-0) in genetically modified (FVB Tg.AC Hemizygous) mice (dermal and drinking water studies) and carcinogenicity studies of sodium bromate in genetically modified [B6.129-Trp53tm1Brd (N5) haploinsufficient] mice (drinking water studies).. (2007).

National Toxicology Program. Toxicology studies of sodium bromate (CAS No. 7789-38-0) in genetically modified (FVB Tg.AC Hemizygous) mice (dermal and drinking water studies) and carcinogenicity studies of sodium bromate in genetically modified [B6.129-Trp53tm1Brd (N5) haploinsufficient] mice (drinking water studies).. National Toxicology Program genetically modified model report (2007).

Shizuo Fujisaki, Satoshi Hamura, Hisao Eguchi et al.. Organic Synthesis Using Sodium Bromate. II. A Facile Synthesis of α -Bromo Imides and Amides Using Sodium Bromate and Hydrobromic Acid (or Sodium Bromide) in the Presence of Sulfuric Acid. Bulletin of the Chemical Society of Japan (1993). DOI: 10.1246/bcsj.66.2426

et al.. Immunotoxicity of sodium bromate in female B6C3F1 mice: a 28-day drinking water study.. (2001). DOI: 10.1081/dct-100102606

W. P. Mason. Elastic, Piezoelectric, and Dielectric Properties of Sodium Chlorate and Sodium Bromate. Physical Review (1946). DOI: 10.1103/physrev.70.529

Full text of H statements

H319	Causes serious eye irritation
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Full text of P statements

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P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
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P308+P313	IF exposed or concerned: Get medical advice/attention
P308+P311	IF exposed or concerned: Call a POISON CENTER or doctor/physician
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P330	Rinse mouth
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Abbreviations

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging (Reg. (EC) 1272/2008)
CMR	Carcinogenic, Mutagenic, toxic to Reproduction
DNEL	Derived No-Effect Level
EC	European Community number
EPI	Personal protective equipment
GHS	Globally Harmonized System

IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods Code
SDS	Safety Data Sheet
LC50	Lethal Concentration, 50%
LD50	Lethal Dose, 50%
NDS	Maximum admissible concentration (workplace, PL)
NDSCh	Short-term exposure limit (PL)
OEL	Occupational Exposure Limit
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals (Reg. (EC) 1907/2006)
STOT	Specific Target Organ Toxicity
SVHC	Substance of Very High Concern
TPSA	Topological Polar Surface Area
vPvB	very Persistent and very Bioaccumulative

Version history

v1 (03.09.2026)	Based on supplier self-classification (ECHA C&L notifications; no harmonised entry in Annex VI).
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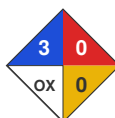
References

- [1] EP and Council. Reg.(EC) No 1907/2006 (REACH). Art.31, Annex II. OJ EU L 396/2006. URL: <https://eur-lex.europa.eu/eli/reg/2006/1907/oj> Accessed: 2026-09-03.
- [2] European Commission. Reg.(EU) 2020/878 — amending Annex II REACH. OJ EU L 203/2020. From 01.01.2023. URL: <https://eur-lex.europa.eu/eli/reg/2020/878/oj> Accessed: 2026-09-03.
- [3] EP and Council. Reg.(EC) 1272/2008 (CLP) + ATP 23. OJ EU L 353/2008. (2026-07-07) URL: <https://eur-lex.europa.eu/eli/reg/2008/1272/oj> Accessed: 2026-09-03.
- [4] United Nations. GHS Rev.9. ST/SG/AC.10/30/Rev.9. New York and Geneva: United Nations, 2021. URL: <https://unece.org/transport/dangerous-goods/ghs-rev9-2021> Accessed: 2026-09-03.
- [5] ISO. ISO 7010:2019 — Graphical symbols. Safety signs. URL: <https://www.iso.org/standard/72424.html> Accessed: 2026-09-03.
- [6] ISO. ISO 3864-1:2011 — Safety colours and safety signs. URL: <https://www.iso.org/standard/51021.html> Accessed: 2026-09-03.
- [7] PubChem. National Center for Biotechnology Information (NIH/NLM), chemical compound database. URL: <https://pubchem.ncbi.nlm.nih.gov/compound/23668195>
- [8] European Commission. Decision 2000/532/EC establishing a list of wastes (European Waste Catalogue). OJ EU L 226/3. URL: <https://eur-lex.europa.eu/eli/dec/2000/532/oj>
- [9] European Chemicals Agency (ECHA). Guidance on the Compilation of Safety Data Sheets. Version 4.0. Helsinki: European Chemicals Agency, 2020. URL: https://echa.europa.eu/documents/10162/2324906/sds_en.pdf
- [10] Urban, P.G., ed. Bretherick's Handbook of Reactive Chemical Hazards. 8th ed. Oxford: Academic Press.
- [11] Act of 26 June 1974 — Labour Code (Poland), Art. 176 § 1. Journal of Laws 2023 item 1465. URL: <https://isap.sejm.gov.pl>
- [12] Council of Ministers of the Republic of Poland. Regulation of 3 April 2017 on the list of arduous, hazardous or health-harmful work for pregnant and breastfeeding women. Journal of Laws 2017 item 796. URL: <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20170000796>
- [13] CEN. Personal protective equipment standards (EN ISO 374-1, EN 166, EN 149, EN 14387, EN ISO 20345). Brussels: European Committee for Standardization.
- [14] U.S. EPA. ECOTOX Knowledgebase. Washington, DC: U.S. Environmental Protection Agency. URL: <https://cfpub.epa.gov/ecotox/>
- [15] MRIPS Regulation of 12.06.2018 — NDS/NDN. Journal of Laws 2024 item 1017. URL: <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20240001017> Accessed: 2026-09-03.

External links

NIST: <https://webbook.nist.gov/cgi/cbook.cgi?ID=7789-38-0>
 ChEMBL: https://www.ebi.ac.uk/chembl/compound_report_card/CHEMBL1348453

NFPA 704 (supplementary information — NFPA/USA system; not a required element of an EU safety data sheet under REACH Annex II)



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Author: www.MolGod.org — platform for automated safety data sheets (SDS).

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