TUROKSİ CHEMICAL

Certified to NSF/ANSI/CAN 60

TS EN 938 (OCAK 2010)

SAFETY DATA SHEET
Sodium Chlorite Solution

According to Regulation (EU) No 2015/830

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name **Sodium Chlorite Solution**

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

Identified uses Textile, cellulose, treatment of industrial and drinking water, wastewater treatment, deodorization, production of chlorine dioxide, feeding industry.

1.3. Details of the supplier of the safety data sheet

Manufacturer **Turoksi Kimyevi Maddeleri Sanayi Ticaret Limited Şirketi**
Head Office Address Ömerağa Mahallesi Alemdar Cad. No:42/6 İzmit / KOCAELİ
Tel: +90 262 321 65 76
Fax: +90 262 321 65 53
www.turoksikimya.com

Factory address Tekeler Mah. Kavacık Sok. Keresteciler San. Sitesi No:3/1-2 Adapazarı / Sakarya

Contact Person Hüseyin DURUMER

1.4. Emergency telephone number

Turoksi Kimyevi Mad. San. Tic. Ltd. Şti : +90 264 666 12 07 (office hours)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical and Chemical Hazards	Not classified.
Human health	Acute Tox. 4 - H302. Acute Tox. 3 - H311. Skin Corr. 1B - H314. Eye Dam. 1 - H318. STOT RE 2-H373.
Environment	Aquatic Acute 1 - H400. Aquatic Chronic 3 - H412.

The Full Text for Hazard Statements are Displayed in Section 16.

2.2. Label elements

Label In Accordance With (EC) No. 1272/2008
Pictogram (s):

Signal Word Danger

Hazard Statements

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.

TUROKSİ CHEMICAL

Certified to NSF/ANSI/CAN 60

TS EN 938 (OCAK 2010)

SAFETY DATA SHEET
Sodium Chlorite Solution

According to Regulation (EU) No 2015/830

H373	May cause damage to organs(spleen) through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very toxic gas.
EUH071	Corrosive to the respiratory tract.

Precautionary Statements

P260	Do not breathe vapour/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/container in accordance with national regulations.

2.3. Other hazards

This product does not contain another predicted danger.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Name	EC No.	CAS No.	Content	Classification (EC 1272/2008)
Sodium chlorite	231-836-6	7758-19-2	20-35 %	Ox. Sol. 1 - H271 Acute Tox. 3 - H301 Acute Tox. 2 - H310 Skin Corr. 1B - H314 Eye Dam. 1 - H318 STOT RE 2 - H373 Aquatic Acute 1 - H400 (M=1) Aquatic Chronic 3 - H412

The Full Text for Hazard Statements are Displayed in Section 16.

Composition Comments

- The data shown are in accordance with the latest EC Directives.
- • See section 8 for occupational exposure limit values.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information
Get medical attention immediately.
Inhalation
Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.

TUROKSİ CHEMICAL

Certified to NSF/ANSI/CAN 60

TS EN 938 (OCAK 2010)

SAFETY DATA SHEET
Sodium Chlorite Solution

According to Regulation (EU) No 2015/830

Ingestion
Rinse mouth thoroughly with water. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Place unconscious person on their side in the recovery position and ensure breathing can take place.

Skin contact
Take off immediately all contaminated clothing. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention. Chemical burns must be treated by a physician.

Eye contact
Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation : A single exposure may cause the following adverse effects: Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat.

Ingestion : May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.

Skin contact : Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation, redness.

Eye contact : Causes serious eye damage. Symptoms following overexposure may include the following: Pain, redness.

4.3. Indication of any immediate medical attention and special treatment needed
No specific treatment. Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media
Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media
CO_2 powder (powdered dry ice), foam or fire blanket.

5.2. Special hazards arising from the substance or mixture

Specific hazards
The product is not flammable or explosive. If it reaches 175 °C it decomposes to chlorine and chlorate. Subsequent decomposition of the chlorate produces oxygen which may give rise to the explosion or bursting of closed containers.

5.3. Advice for firefighters

Special Fire Fighting Procedures
Avoid breathing fire gases or vapours. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses.

Protective equipment for fire-fighters
Wear chemical protective suit. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

TUROKSİ CHEMICAL

Certified to NSF/ANSI/CAN 60

TS EN 938 (OCAK 2010)

SAFETY DATA SHEET
Sodium Chlorite Solution

According to Regulation (EU) No 2015/830

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Ensure procedures and training for emergency decontamination and disposal are in place. Avoid inhalation of vapours. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes. Avoid contact with contaminated tools and objects.

6.2. Environmental precautions

Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment.

6.3. Methods and material for containment and cleaning up

Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Provide adequate ventilation. Approach the spillage from upwind.

Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container.
Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

6.4. Reference to other sections

For personal protection, see section 8. See section 11 for additional information on health hazards.
For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Do not smoke, eat or drink when handling the product. Avoid the formation of sparks. Maintain storage and work areas totally clean, devoid of any trace of foreign or incompatible products. Before handling the product, make sure that the containers, vessels and tanks to be used are clean, dry and appropriate for the intended use. Avoid mixing with incompatible products (acids, acid materials, reducers, combustible materials, oils, greases, rags, etc). Containers shall be properly closed and appropriately labelled. Avoid contact with the skin, eyes and clothing. Always use the recommended protective clothing.

7.2. Conditions for safe storage, including any incompatibilities

Keep in a dry place away from heat sources. Keep the product separated from flammables, combustibles, acids and organics. Avoid direct sunlight.

Recommended materials: For containers: Plastic (PP, PVC, PE), stainless steel tanks. For tanks and silos: Stainless steel, Polyester coated carbon steel, FRP.

Incompatible materials: Wood, Rubber, Aluminium, Copper and Alloys.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
Sodium chlorite	WEL	0.1 ppm	0,28 mg/m^3	0.3 ppm		---

TUROKSİ CHEMICAL

Certified to NSF/ANSI/CAN 60

TS EN 938 (OCAK 2010)

SAFETY DATA SHEET
Sodium Chlorite Solution

According to Regulation (EU) No 2015/830

WEL = Workplace Exposure Limits.
TWA= Time weighted average.
STEL= Short term exposure limit

8.2. Exposure controls

Protective equipment

Process conditions
Provide eyewash, quick drench.

Engineering measures
Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of vapours.

Respiratory equipment
In the event of formation of chlorine dioxide use breathing protection mask with filter for inorganic gases B(Chlorine) for low concentrations (EN 136), for higher concentrations use self-contained breathing equipment. (EN.137).

Hand protection
Gloves for chemical hazards, PVC type (do not use leather or natural rubber) (EN 374).

Eye protection
If risk of splashing, wear safety goggles or face shield. (EN 166).

Hygiene measures
DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Wash promptly with soap & water if skin becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.

Skin protection
Protection suit must be worn.

Environmental exposure controls
Avoid the product from reaching drains and/or surface waters.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Colourless.
Odour	Odourless.
Solubility	Miscible.
Initial boiling point and boiling range	112°C (300 g/l solution)
Melting Point	170º C (Decomposes)
pH Value	Alkali 11/12
Flash point	No data available.
Flammability	No flammable.
Vapour pressure (mmHg)	N.A
Specific gravity (water=1), 25°C	25% solution aprox. 1210 kg/m^3 31% solution aprox. 1280 kg/m^3 34,5% solution aprox. 1310 kg/m^3

TUROKSİ CHEMICAL

Certified to NSF/ANSI/CAN 60

TS EN 938 (OCAK 2010)

SAFETY DATA SHEET
Sodium Chlorite Solution

According to Regulation (EU) No 2015/830

Oxidising properties	If it reaches dryness it becomes oxidising.
Viscosity	No data available.

9.2. Other information

Crystallisation temperature (ºC)	+10ºC(34,5% solution) -10ºC (25% solution) -2ºC (7,5% solution)
Decomposition temperature (ºC)	170ºC (in solid state)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
No data available.

10.2. Chemical stability
Stable under normal temperature conditions and recommended use. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions
In contact with acid materials (Acids, aluminium polychloride, aluminum sulphate, ferric chloride, etc.) chlorine dioxide is formed, with risk of explosion. Violent exothermic reaction, development of heat with reducing materials (sodium sulphite). Potencial le explosive reaction with combustible materials (wood, cellulose, grease, cotton...)

10.4. Conditions to avoid
Avoid exposure to high temperatures or direct sunlight.

10.5. Incompatible materials
Acids, acid substances (aluminum sulphate, aluminum chloride, ferric chloride..), wood, cellulose, grease, cotton.

10.6. Hazardous decomposition products
The product decomposes into chlorine dioxide and oxygen under heating and direct sun-light, with risk of bursting of containers.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

	Product
Acute toxic dose -LD50	811.4 mg/kg (oral – rat)
Acute toxic dose -LD50	382.8 mg (dermal – rabbit)

	Sodium chlorite
Acute toxic dose-LD50	284 mg / kg (oral-rat)
Acute toxic dose-LD50	134 mg / kg (dermal-rabbit)

Skin corrosion/irritation
May cause skin irritation.

Serious eye damage/irritation
May cause burns in the eyes. It may cause ulceration of the conjunctiva and of the cornea.

Respiratory or skin sensitisation:
Skin sensitisation: No data available.
Germ cell mutagenicity
Genotoxicity - In Vitro/ In Vivo
No data available.

TUROKSİ CHEMICAL

Certified to NSF/ANSI/CAN 60

TS EN 938 (OCAK 2010)

SAFETY DATA SHEET
Sodium Chlorite Solution

According to Regulation (EU) No 2015/830

Carcinogenicity
No data available.

Reproductive Toxicity – Fertility/ Development
No data available.

Inhalation
It can cause irritation of the respiratory tract and airways.

Ingestion
It may cause burns in the mouth and oesophagus. It may cause intestinal perforation.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Acute toxicity to fish

Zebra fish, Sheepshead minnow rainbow trout	LC50, 96h	100 mg/l

Acute toxicity to aquatic invertebrates

Daphnia magna	EC50, 48h	< 1 mg/l

Acute toxicity to microorganisms

Activated Sludge	EC50, 3h	6,5 mg/l

Acute toxicity to aquatic plants (algae)

Selenastrum capricornutum	EC50, 96h	1 mg/l (clorito 80%)

12.2. Persistence and degradability

There are no data on the biodegradability of this product.

12.3. Bioaccumulative potential

Irradiation of sodium chlorite solutions indicated a photodegradation half-life of about 30 minutes with a steady increase in pH (pH 8 to 12.6) and major products identified as hydroxide, chlorine dioxide and chloride with chlorate and hypochlorite as minor products and trace amounts of chlorine. The radiation dose (9000 j/m^{-2}) needed to produce a 50% reduction in chlorite concentration suggests that the doses (200-250 j/m^{-2}) used for drinking water disinfection would not result in a significant reduction in chlorite concentrations It is not considered technically appropriate to perform a ready biodegradation test on sodium chlorite. However, sodium chlorite is expected to be rapidly reduced to sodium chloride in the environment, especially in anaerobic conditions.

12.4. Mobility in soil

Due to its extremely low lipophilicity and high instability in water, sodium chlorite and hence chlorine dioxide are not expected to bioaccumulate in fish

12.5. Results of PBT and vPvB assessment

This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects

No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

General Information
When handling waste, consideration should be made to the safety precautions applying to handling of the product.

TUROKSİ CHEMICAL

Certified to NSF/ANSI/CAN 60

TS EN 938 (OCAK 2010)

SAFETY DATA SHEET
Sodium Chlorite Solution

According to Regulation (EU) No 2015/830

13.1. Waste treatment methods

Dispose empty containers, rubbish and waste in accordance with local authority requirements. Environmental manager must be informed of all major spillages. Contact specialist disposal companies. Please recycle empty pack. Do not re-use empty containers. Clean empty container with water. An incineration plant can be burnt by the appropriate authorities.

SECTION 14: TRANSPORT INFORMATION

General

This substance/mixture may be classified as hazardous. However, it may be dispatched as non-hazardous substance in cases when the packaging is under limited / exceptional quantity. Please follow the relevant regulations.

14.1. UN number

UN No. (ADR/RID/ADN)	1908
UN No. (IMDG)	1908
UN No. (ICAO)	1908

14.2. UN proper shipping name

Proper Shipping Name	CHLORITE SOLUTION

14.3. Transport hazard class(es)

ADR/RID/ADN Class	8
ADR/RID/ADN Class	Class 8 : Corrosive Substances
ADR Label No.	8
IMDG Class	8
ICAO Class/Division	8
Transport Labels	

14.4. Packing group

ADR/RID/ADN Packing group	II
IMDG Packing group	II
ICAO Packing group	II

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant Yes

14.6. Special precautions for user

EMS	F-A, S-B
Emergency Action Code	2 X
Hazard No. (ADR)	80
Tunnel Restriction Code	(E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

TUROKSİ CHEMICAL

Certified to NSF/ANSI/CAN 60

TS EN 938 (OCAK 2010)

SAFETY DATA SHEET
Sodium Chlorite Solution

According to Regulation (EU) No 2015/830

SECTION 15: REGULATORY INFORMATION

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

Guidance Notes
Workplace Exposure Limits EH40. Introduction to Local Exhaust Ventilation HS(G)37.
CHIP for everyone HSG(108).
EU Legislation
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures.
Regulation (EC) No 1907/2006 with amendments.
System of specific information relating to Dangerous Preparations. 2001/58/EC.

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms used in the safety data sheet
ADR: European Agreement on International Carriage of Dangerous Goods by Road.
ADN: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways.
RID: European Agreement on International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
ICAO-TI: Technical Specification for Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
TWA: Time weighted average
ATE: Estimated value of acute toxicity
EC No: European Community number
CAS: Chemical Theory Service.
LD50: Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
LC50: Substance concentration causing 50% (half) death in the test animals group.
EC50: Effective Concentration of the substance causing the maximum of 50%.
PBT: Persistent, Bioaccumulative and Toxic substance.
vPvB: Very Permanent, Very Biofriendly.
SEA: Classification, labeling, packaging regulation
DNEL: Derivative Inactive Level
PNEC: Estimated Unaffected Concentration
BHOT: Specific Target Organ Toxicity

Information Sources
This SDS is prepared based on the information received from the product owner.

Revision Comments
The following parts of the SDS have changed. Section 15, Section 16.

Hazard Statements In Full

H271	May cause fire or explosion; strong oxidiser.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H373	May cause damage to organs (Spleen) through prolonged or repeated exposure.

TUROKSİ CHEMICAL

Certified to NSF/ANSI/CAN 60

TS EN 938 (OCAK 2010)

SAFETY DATA SHEET
Sodium Chlorite Solution

According to Regulation (EU) No 2015/830

H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Issued By

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Issued Note

This SDS is prepared based on the information and documents received from product owner. CRAD or/and SDS author shall not be responsible for incorrect prepared of SDS and pecuniary loss or intangible damages because of deficient or wrong information and documents which comes from product owner.

Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.