

İkitelli O.S.B.Deparko San.Sit. Hürriyet Bulvarı No:1/46-46/A BAŞAKŞEHİR/ İSTANBUL

Telefon : 90 - 212 - 675 05 39

Fax No : 90 - 212 - 675 08 02

Web site : www.askimya.com

E-mail : info@askimya.com

MATERIAL SAFETY DATA SHEET

SODIUM CARBONATE

FIS 01

1. SUBSTANCE IDENTIFICATION / PRODUCER

Denomination: Anhydrous sodium carbonate

Utilization: Sodium carbonate is used in the chemical and petrochemical industry, textile industry, metal extraction, refining and processing of metals, paints, lacquers and varnishes industry, pH-regulating agents, pharmaceutical industry, photochemical, glass production, domestic use as detergents, detergents production cellulose and paper industry, rubber industry, leather processing industry.

2. COMPOSITION/INFORMATION ABOUT COMPOUNDS

Chemical denomination: Sodium carbonate
Other denominations: Soda ash
Chemical formula: Na_2CO_3
Molecular mass: 106

Compounds	Annex I Index#	CAS #	EC#	Concentration %	Classification EC Symbol of Danger	Risk Phrases
Sodium Carbonate	011-005-00-2	497-19-8	207-838-8	Min 98.00	Xi	R36

According to appearance and density, the Sodium Carbonate is delivered in two sorts, soda ash light and soda ash dense.

3. DANGER IDENTIFICATION

Risks for health: Sodium carbonate may cause the irritation of the breathing system. In a high powder concentration, it may cause the injury of the nasal septum.

Ingestion: It may cause irritations or disorders of the gastrointestinal apparatus.

Eyes: In case of contact with eyes, it may cause irritations, possible conjunctivitis.

Skin contact: In a long contact, it may cause irritations.

Risks for environment: Sodium carbonate is soluble in water, having a good capacity to permeate through the ground. The toxic effects are due mainly to growing of the value of pH water over limit 9. In according to Annex no. 2 of HG 490:2002, anhydrous sodium carbonate is not classified as a dangerous product for the environment.

Ignition or explosion risks:

It is a non-combustible substance and does not present an explosion danger.

4. FIRST AID MEASURES

Inhalation: Bring out the victim in fresh air and, if it is necessary, make him artificial breathing. Upon situation seek medical advice.

Ingestion: The victim must drink 1-2 glasses of water, for dilution. Do not administrate anything by oral way to a person without consciousness or under convulsions.

Contact with eyes: Wash plentifully the eyes with water for 15 minutes, including under the eyelids. Upon situation, seek the medical advice.

Skin contact: Wash plentifully the skin with water for 15 minutes at least. Take off the clothes that will be washed before to be used again.

5. FIRE PROTECTION MEASURES

Fire: It is not a combustible substance. For extinction of the fire in which is involved this substance will use the appropriated extinction agents. For little fire are used dry chemical substances, carbon dioxide, pulverized water or foams. Because of the toxic smoke caused by the thermal decomposition, will wear autonomous isolating respiratory apparatus and full protection equipment. Use the pulverized water to reduce the powder. Do not overflow into canals or streams.

Explosion: Do not present explosion danger.

6. MEASURES IN CASE OF ACCIDENTAL LEAKAGES

Individual precautions: The personnel who clean the contaminated surfaces will be protected against inhalation and skin contact. Will be created room's ventilation conditions. Recovered material will be stored in special containers.

Environment protection: If it is possible, the leakages of material will be collected and stored in special containers. The wastes will be treated according to environmental legal requirements. Avoid over flow into streams or ground, without a preliminary treatment.

7. MANIPULATION AND STORAGE

Storage: The product, being hygroscopic, will be stored in dry, well ventilated rooms, far from the heat sources, or in the close warehouses.

Sodium carbonate is packed and delivered in polyethylene and polypropylene bags with net weight of 50 kg±1.5%; 25 kg±1.5% or big-bags of 500 kg±0.5% and 1000kg±1%; silo trucks of 20 or 40 T (bulk charge).

There are possibilities of packing in the thermal adjustable thin sheets or bags' palletization on wood pallets.

The packages must be dry and clean.

Manipulation: Avoid leakages accidental. During manipulation process, avoid throw down from a bigger of 0.75 m in horizontal position, and respectively 0.30m in vertical position.

The personal who manipulate this products, must wear appropriate protection clothes. The area will be well ventilated, for maintain powder emissions under legal limits.

8. CONTROL OF EXPOSURE / PERSONAL PROTECTION

Protection for health:	Limit values	Exposure time
	1 mg/m ³	8 h
	3 mg/m ³	15 minutes

Control of occupational exposure: Will be assured local and general ventilation systems to maintain the concentrations under the accepted limits. The local ventilation is preferable because of prevention of noise's dispersion in the work area by collecting at the source.

Respiratory protection: Will choose protection equipment related to the work conditions, related to the sodium carbonate concentration in air and the sufficient presence of oxygen. In interventions or special cases (cleaning of a big dispersed quantity, cleaning of warehouses) will wear autonomous isolating respiratory apparatus or mask.

Warning: Filterable respiratory apparatus do not protect the workers into the oxygen deficit atmospheres!

Eyes protection: Wear protection glasses. Avoid the contact lenses at the workplace.

Skin protection: Wear adequate protection equipment.

Hand protection: Wear protection gloves.

First aid stations: Will be assuring eyes' wash station in the work area.

Contaminated equipment: Will be separated the contaminated work clothes apart from the street clothes and will be washed before use.

Additional recommendations: Will assure a good personal hygiene before eating, drinking, and smoking, using the toilet or make-up.

9. PHYSICO-CHEMICAL DATA

Appearance and smell: Soda ash is a fine-crystalline and hygroscopic powder, without odor, with alkaline taste. It is a salt product.

Boiling point: ca. 1600 degree C.

Melting point: ca. 853 degree C.

Solubility: ca. 217g/l at 20 degree C. Sodium Carbonate hydrolysis as a function of pH. The carbonate system in water is important because of the ubiquity of carbon dioxide and carbonate-bearing minerals in the environment: carbon dioxide gas, after dissolving in water, is hydrolyzed to form carbonic acid. Carbonate minerals dissolve in water with formation of carbonate and cation.

pH: 11.6 at 20 degree C.

Bulk density: 0.5 - 0.6 kg/dm³ (soda ash light)

1.0 - 1.2 kg/dm³ (soda ash dense)

Density into settlement situations: 0.91 - 1.2 kg/dm³ (soda ash dense)

Chemical incompatibilities: Sodium carbonate can become explosive in contact with hot aluminum and it is incompatible with ammonia and silver nitrate, dinitrotoluene, trinitrotoluene, sulphuric acid, sodium sulphide, lithium, phosphorus pentoxide, fluorine, hydrogen peroxide. Concentrated and warmed solutions of sodium carbonate are semi corrosive to steel.

Conditions to be avoided: Excessive generation of powder, contact with the heat, humidity and chemical incompatible substances.

10. STABILITY AND REACTIVITY

Stability: Anhydrous sodium carbonate is stable at the ambient temperature, in close containers, in normal storage conditions. Being a hygroscopic product, it can absorb the air humidity and composes sodium bicarbonate and different hydrates. At 400 degree C, it decomposes oneself with formation carbon dioxide and sodium oxide.

Polymerization: No accidental polymerization.

11. TOXICITY

CAS	Dose	Value	UM
497-19-8	LD ₅₀ - rat, oral	4090	mg/kg
	LC ₅₀ - rat, inhalation	2300	mg/m ³ (2 h)
	LC ₅₀ - mouse, inhalation	1200	mg/m ³ (2 h)

Cancer genesis: It is not designated as a cancer generator.

Risks: Toxicity of sodium carbonate is more depending of concentration, less of quantity (dose). It may be a little toxic by inhalation, ingestion, or skin and eyes contact; the long or repeated exposure to the concentrate solutions may cause tissues' damages, "soda's ulcer" on the hands, and perforations of the nasal septum.

Affected organs: Skin, eyes, digestive and respiratory systems.

Primary ways of penetration: Inhalation, ingestion, skin or eyes contact.

Acute effects: Acute inhalation may cause irritation of eyes, nose and throat, sneeze, respiratory difficulty, cough and possible chemical bronchitis (inflammation of the bronchial ways into lungs by chemical substance inhalation). Ingestion may cause irritation into the mouth, chest and stomach, ache at swallow and stomach ache. The moist skin in contact with the substance suffers more serious effects: itching, burns, burning sensations, redness and swelling. In contact with eyes, may cause chemical and mechanical irritations, ache, tears, cornea burn, conjunctivitis and serious damage risk if the eyes are deeply clenched.

12. ECOTOXICITY

CAS	Dose	Value	UM
497-19-8	LC ₅₀ - fish (<i>Gambusia affinis</i>)	740	mg/l (96 h)
	LC ₅₀ - fish (<i>Lepomis macrochirus</i>)	384	mg/l (24 h)
	LC ₅₀ - fish (<i>Poecilia latipinna</i>)	176-229	mg/l (25 h)
	EC ₅₀ - invertebrates (<i>Daphnia magna</i>)	151-565	mg/l (24 h)
	EC ₅₀ - invertebrates (<i>Culex</i> sp.)	600	mg/l (48 h)
	EC ₅₀ - invertebrates (<i>Dugesia</i> sp.)	360	mg/l (48 h)
	EC ₅₀ - invertebrates (<i>Amphipoda</i>)	176	mg/l (48 h)
	EC ₅₀ - invertebrates (<i>Lymnaea</i> sp. eggs)	403	mg/l (48 h)
	EC ₅₀ - algae (<i>Nitzschia</i> sp.)	137-1050	mg/l (5 days)

Mobility: As a hygroscopic substance, in air it is affected because the humidity from atmosphere. Ecotoxicity in aquatic environment is determined by the growing of alkalinity from water. For aquatic environment, the maximum limit of pH must be under 9.

13. CONSIDERATIONS REGARDING THE WASTES

Elimination: In case of little leakages, the recovered material will be stored in special containers for a further elimination. In case of severe leakages, the dispersed material covers with a plastic sheet, or other water-proof sheets, are to prevent the contact with water, or other water-sources.

Environment prevention: If it is possible, the leakages of material will be collected and stored in special containers. The wastes will be treated according to environmental legal requirements. Avoid over flow into streams or ground, without a preliminary treatment.

14. INFORMATION REGARDING THE TRANSPORT

Sodium carbonate is packed and delivered in polyethylene and polypropylene bags with net weight of 50 kg \pm 1.5%; 25 kg \pm 1.5% or big bags of 500 kg \pm 0.5% and 1000kg \pm 1%; silo trucks of 20 or 40 T (bulk charge). According to ADR/RID sodium carbonate is not catalogued as a dangerous substance. Transport of the product will be done with specialized vehicles. Each delivery lot has to accompany by the quality certification document according to the legal dispositions in force.

15. INFORMATION REGARDING THE REGULATIONS

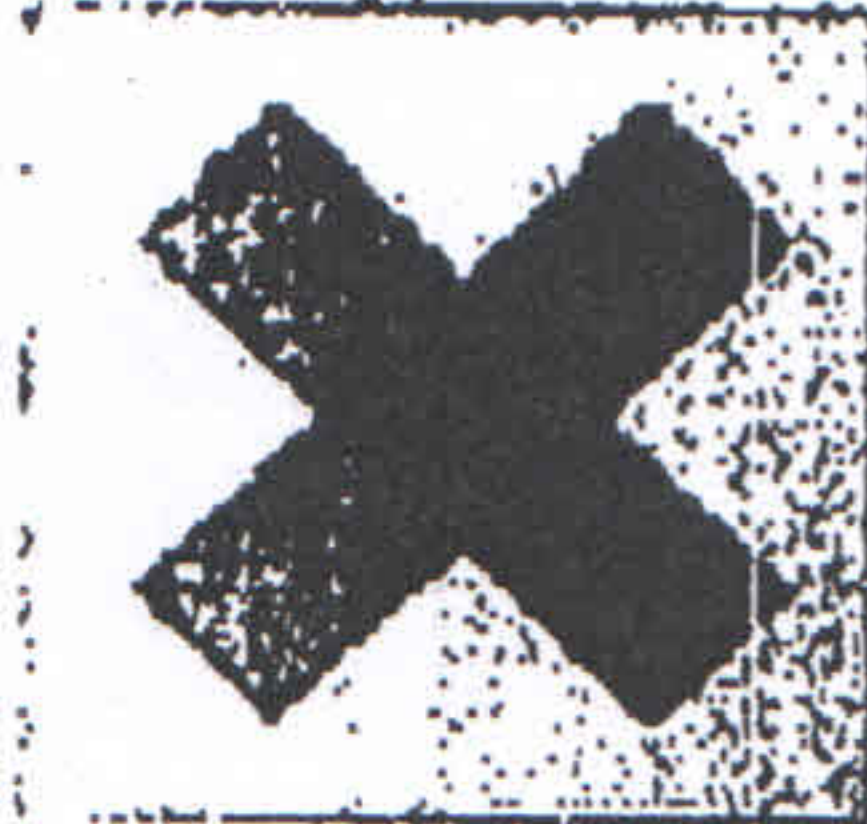
The classification and labeling of sodium carbonate is in accordance with Annex I of Directive 67/548/EEC. This substance is listed in European Inventory of Existing Commercial Chemical Substances.

Annex I Index = 011-005-00-2,

EC = 207-878-8

CAS = 197-19-8

Labeling:



Symbol of Danger :	Ni	irritant
Risk phrases:	R 36	irritating to eyes
Security phrases:	S 2	Keep out of the reach of children
	S 22	Do not breathe the dust
	S 26	In case of contact with eyes rinse immediately with plenty of water and seek medical advice

ICCID - Data Bank (European Commission - European Chemicals Bureau)

ESIS - European Chemical Substances Information System

Romanian Legal requirements

16. ANOTHER INFORMATION

Technical Control: Will be assured local ventilation systems to maintain the sodium carbonate concentration under the accepted limits

Preventative control: Will be avoided the excessive emission of powder. Workers exposed to the sodium carbonate will have periodically medical examination, especially for the skin affections

Precautions: Not eat, not drink in work areas with soda ash. A good personal hygiene must be guaranteed before meal, before drinking, before smoking, before using the toilet and cosmetics.

Warning Marks: In work areas, must be warning placards: "IRRITANT PRODUCT", "Use the mask for powder", "Use the protection gloves", "Use the protection glasses"

Information contained in the present document must be available to all users of this product. This information does not replace the technical specification of the product <<soda ash>>.

Quality Control and Environmental Protection Department