SODIUM SULFIDE

PRODUCT IDENTIFICATION	
CAS NO.	1313-82-2; 113584-74-0
EINECS NO.	215-211-5
FORMULA	Na_2S
MOL WT.	78.04
H.S. CODE	2830.10.0000
TOXICITY	Oral rat LD50: 208 mg/kg
SYNONYMS	Sodium monosulfide; Hesthsulphid; Sodium sulfuret; Disodium monosulfide; Disodium sulfide; Sodium Sulphide;
SMILES	S([Na])[Na]
CLASSIFICATION	Catalyst, Inorganic Chemical, Chalcogenide

PHYSICAL AND CHEMICAL PROPERTIES	
PHYSICAL STATE	yellow to red flakes
MELTING POINT	
BOILING POINT	
SPECIFIC GRAVITY	1.86
SOLUBILITY IN WATER	Soluble (slightly soluble in alcohol)
pH	Alkaline
VAPOR DENSITY	
AUTOIGNITION	
NFPA RATINGS	Health: 3 Flammability: 0 Reactivity: 0
REFRACTIVE INDEX	
FLASH POINT	
STABILITY	Stable under ordinary conditions. Oxidizes in air .

GENERAL DESCRIPTION & APPLICATIONS

Sodium Sulfide is a yellow to red solid; readily soluble in water, slightly soluble in alcohol. It is a strong reducing agent and reacts with oxidants. It is primarily used in pulp and paper industry. It is used in water treatment as an oxygen scavenger agent, in the photographic industry to protect developer solutions from oxidation, in textile industry as a bleaching, as a desulfurizing and as a dechlorinating agent and in leather trade for the sulfitization of tanning extracts. It is used in chemical manufacturing as a sulfonation and sulfomethylation agent. It is used in the production of rubber chemicals, sulfur dyes and other chemical compounds. It is use in other applications include ore flotation, oil recovery, food preservative, making dyes, and detergent.

SALES SPECIFICATION

GRADE I	
APPEARANCE	red flakes
Na_2S	60.0% min
Na_2CO_3	2.0% max
Fe	0.15% max
WATER INSOLUBLES	0.5% max

GRADE II	
APPEARANCE	yellow flakes
Na_2S	60.0% min
Na_2CO_3	2.0% max
Na_2SO_3	2.0% max
$Na_2S_2O_3$	2.0% max

Fe	0.15% max
WATER INSOLUBLES	0.5% max

TRANSPORTATION

PACKING	25kgs , 1mt in Bag
HAZARD CLASS	4.2 (Packing Group: II)
UN NO.	1385, 1849

LABELING IN ACCORDANCE WITH EC DIRECTIVES

Hazard Symbols: C, Risk Phrases: 31-34, Safety Phrases: 3/14-24/25-26-28-45

OTHER INFORMATION

Sulfate (also spelled sulphate in Europe) is any chemical compound containing the SO_4^{2-} ion related to sulfuric acid (H_2SO_4). Sulfates are salts or esters of sulfuric acid, formed by replacing one or both of the hydrogens with a metal or a radical as in sodium sulfate, Na_2SO_4. Sulfates in which both hydrogens are replaced are called normal sulfates. Bisulfate is a compound that has the HSO_4^- radical. Bisulfate (called also hydrogen sulfate or acid sulfate) is a compound formed by replacing only one hydrogen in sulfuric acid. Sulfite (also sulphite) is a compound that contain the sulfite ion SO_3^{2-}. Sulfites are salts or esters of sulfurous acid (H_2SO_3), formed by replacing one or both of the hydrogens with a metal or a radical as in sodium sulfite, Na_2SO_3. Sulfites in which both hydrogens are replaced are called normal sulfites. Bisulfite is a compound that has the HSO_3^-radical. Bisulfate (called also hydrogen sulfite or acid sulfite) is a compound formed by replacing only one hydrogen in sulfurous acid. The term of 'meta' or 'pyro' is the chemical prefix for oxo acid formed through the loss of one water molecule (dehydration) from two molecules of ortho acid by heating. Pyrosulfuric acid is an example ($2H_2SO_4 - H_2O = H_2S_2O_7$). Ortho acid is the compound fully hydrated acid or its salts. Orthophosphoric acid is an example ($2 \cdot H_3PO_4 = P_2O_5 \cdot 3H_2O$), in contrast to the less hydrated form, pyrophosphoric acid ($2 \cdot HPO_3 = P_2O_5 \cdot H_2O$). $Na_2O_5S_2$ is called sodium metabisulfite ($2 \cdot HNaO_3S - H_2O$). Sulfide is a compound having one or more sulfur atoms in which the sulfur is connected directly to a carbon, metal, or other nonoxygen atom; for example sodium sulfide, Na_2S. Sulfide ion is S^{2-} with oxidation number -2. Bisulfide ion is an anion formed by two sulfur atoms having an overall -2 charge, $(S_2)^{2-}$. Sulfamate is a salt of sulfamic acid (HSO_3NH_2). Calcium sulfamate $Ca(SO_3NH_2)_2$ is an example.