



Technical Data Sheet

Nitrosylsulphuric acid (NSA) (Domestic)

1. Introduction

Nitrosylsulphuric acid is the chemical compound with the formula NOHSO_4 . It is a colourless solid that is used industrially in the production of caprolactam.

1. Product: **Nitrosylsulphuric acid (NSA)**
2. CAS No: **7782-78-7**
3. Molecular Formula: HNO_5S
4. Molecular Weight: 127.08

2. Physical Properties:

Physical state: viscous liquid

Appearance: Clear yellow to green viscous liquid

Melting Point : $-10\text{ }^\circ\text{C}$

Stability: Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Handle and store under inert gas.

Density 1.890 – 1.895 g/cm^3 (at $20\text{ }^\circ\text{C}$)

Boiling point :- Decomposes

Solubility in water :- Decomposes

Solubility :- Soluble in H_2SO_4

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3. Product Quality Specification:

Sr Number	Parameter	Standard Grade Un coated
01	Physical Appearance	Clear yellow to greenish viscous liquid
02	Nitrosylsulphuric acid (NSA)	35.0 to 40.0 %w/w
03	Acidity as H ₂ SO ₄	54.0 %w/w Min.

Our products are not meant for use as food or drug additives.

4. Packing Information:

Sr. Number	Grade	Packing	Secondary Packing
01	Liquor		In Tanker

DNL Can customize packing for different quantities.

5.PRODUCT USES

Chemical Properties

Yellowish viscous liquid

Usage

Nitrosylsulfuric acid is used for diazotisation, nitrosation, oxidation and oximation reactions. Product Data Sheet

General Description

Shipped in solution with sulfuric acid (solutions are usually 40% Nitrosylsulfuric acid and 54% sulfuric acid (Hawley)). Solution is a straw-colored oily liquid with a sharp odor. When pure, a crystalline solid decomposing at 73°C. Very irritating to skin and eyes. Used to make dyes and other chemicals.

Reactivity Profile

Nitrosylsulfuric acid is an oxidizing agent. Neutralizes chemical bases in exothermic reactions. An attempt to diazotize dinitroaniline using Nitrosylsulfuric acid resulted in an explosion with loss of life. The event was blamed on the high concentration of the reactants dinitroaniline hydrochloride and Nitrosylsulfuric acid [MCA Case History 1763. 1971].

Health Hazard

TOXIC; inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death. Reaction with water or moist air will release toxic, corrosive or flammable gases. Reaction with water may generate much heat that will increase the concentration of fumes in the air. Fire will produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

Fire Hazard

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Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water

Nitrosylsulfuric acid is used for diazotization, nitrosation, oxidation and oximation reactions.

6. Regulatory Information :-

Particulars	Information	Pictogram
Hazard Class	8	
Label	Oxidizer	
Subsidiary Label	Toxic	
UN Number	3264	
Proper shipping Name	Nitrosylsulphuric acid, Liquid	
Packing Group	II	

Reach Details :-

Nitrosylsulphuric acid (NSA) :- 05-2115865454-39-0000 – Status – Active

7. PRODUCT SAFETY INFORMATION :

.This chemical may cause skin/ eye irritation and burns (corrosive). Symptoms After Inhalation. Irritation of nose, throte and airway. Sneezing. Coughing, damage,tearing eyes. Symptoms After Ingestion : Smarting in mouth and throat, stomach. Contact with combustible material may cause fire. Reacts violently with water 7 librates toxic gas.

As with any chemical, sodium nitrite requires care in handling. Anyone responsible for the procurement, use or disposal of this product should familiarize himself and those handling the product with the appropriate safety and handling precautions. This information is available in the Material Safety Data Sheet, which may be obtained by contacting our Customer Service Group.

8. Manufacture Site :

Deepak Nitrite Ltd

Deepak Nitrite Ltd.
4-12 GIDC Chemical Complex
Nandesari
Dist. Vadodara – 391 340
Gujarat
India

9. Corporate Headquarter: :

Deepak Nitrite Ltd.
Aaditya-I, National Highway No. 8, Chhani Road,
Vadodara - 390 024,
India

10. For Chemical Emergency :

Spill, Leak, Fire, Exposure, or Accident, Call CHEMTREC
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887

Disclaimer :

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