

CLIP, Chemical Laboratory Information Profile

"Only when you know the hazards, can you take the necessary precautionary measures."

Sodium thiosulfate pentahydrate $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$

CAS No.: 10102-17-7

Synonyms: Photo fixer (also incorrectly known as Hypo, or sodium hyposulfite)

Physical Properties	Exposure Limits
Colorless to white crystals; readily forms supersaturated aqueous solutions.	
Vapor pressure at 20 °C: negligible	OSHA PEL: NE
Decomposes at: 46–50 °C	ACGIH TLV: NE

Hazardous Characteristics

Overall toxicity	Flammability	Destructive to skin/eye	Absorbed through skin	Sensitizer?	Self-reactive?	Incompatible with:
1	0	1	0	No	No	Acids, oxidizing agents. *

0: None (or very low); 1: Slight; 2: Moderate; 3: High; 4: Severe.

*Reactivity Hazards

The reaction with oxidizing agents (e.g., halogens, nitrates, nitrites, oxides) can be vigorous and exothermic. Sulfur dioxide is produced when reacted with acids. The pentahydrate decomposes when heated; products include hydrogen sulfide, sulfur dioxide, sulfur trioxide. Explodes violently if mixed with powdered sodium nitrite and heated sufficiently to drive off most of the water of crystallization. See Bretherick's *Handbook of Reactive Chemical Hazards* for details and for other incompatibilities.

Cited as known to be or reasonably anticipated to be carcinogenic in NTP-9?

No

Identified as a reproductive toxin in Frazier and Hage, *Reproductive Hazards of the Workplace*?

No

Typical symptoms of acute exposures:

Diarrhea if ingested. Eye irritant.

Storage Requirements

Keep with other reducing agents and separate from oxidizing agents and acids in a cool, dry, well-ventilated storage location.

Notes

ReadMe

This Chemical Laboratory Information Profile is *not* a Material Safety Data Sheet. It is a brief summary for teachers and their students that describes some of the hazards of this chemical as it is typically used in laboratories. On the basis of your knowledge of these hazards and before using or handling this chemical, *you need to select the precautions and first-aid procedures to be followed*. For that information as well as for other useful information, refer to Material Safety Data Sheets, container labels, and references in the scientific literature that pertain to this chemical.

Reproductive Toxins

Some substances that in fact are reproductive toxins are not yet recognized as such. For the best readily available and up-to-date information, refer to "DART/ETIC". See the TOXNET home page at www.sis.nlm.nih.gov and click on "Toxicology search". *Note that some of the data in DART/ETIC have not been peer-reviewed*. See also Linda M. Frazier and Marvin L. Hage, *Reproductive Hazards of the Workplace*, Wiley, 1998; and T. H. Shepard, *Catalog of Teratogenic Agents*, 9th ed.; Johns Hopkins University Press, 1998.

Abbreviations

ACGIH TLV—American Conference of Governmental Industrial Hygienists—Threshold Limit Value. C—Ceiling. CAS—Chemical Abstracts Service. mg/m³—milligrams per cubic meter. NA—Not applicable. NE—Not established. NI—No information. NTP-9—National Toxicology Program, Ninth Annual Report on Carcinogens. OSHA PEL—Occupational Safety and Health Administration—Permissible Exposure Limit. ppm—parts per million. STEL/C—Short-term exposure limit and ceiling.

Prepared by: Jay A. Young

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