



M A T E R I A L   S A F E T Y   D A T A   S H E E T

MIDLAND RESEARCH LABORATORIES  
10850 MID AMERICA AVENUE  
LENEXA, KS 66219

INFORMATION TELEPHONE NO. : 913-888-0560  
EMERGENCY TELEPHONE NO. : 800-335-5053

PREPARATION DATE: 02/21/00

REPLACES DATE: 11/12/99

PREPARER: FCH

SECTION I - PRODUCT IDENTIFICATION

**MIDLAND 754  
CLOSED SYSTEM INHIBITOR**

SECTION II - HAZARDOUS INGREDIENTS

CHEMICAL NAME	CAS NUMBER	WT. PERCENT IS LESS THAN	OCCUPATIONAL EXPOSURE LIMITS (TLV-TWA) (TLV-STEL)	SKIN DESIG- NATION	VAPOR PRESS. mmHg, 20C	KNOWN OR SUSPECTED CARCINOGEN	SEC 313
Sodium nitrite	7632-00-0	35	none listed	none	not known	no	no
Sodium tetraborate	1330-43-4	5	1 mg/m3 ---	none	not known	no	no

SECTION III - PHYSICAL DATA

BOILING RANGE	: >212	VAPOR DENSITY	: similar to water
ODOR	: mild organic odor	EVAPORATION RATE	: similar to water
APPEARANCE	: clear yellow	SOLUBILITY IN WATER	: complete
	liquid	SPECIFIC GRAVITY	: 1.23 (10.3 lbs/gal)
VOLATILE BY WEIGHT	: >60%	pH	: 8.5-9.5

SECTION IV - FIRE AND EXPLOSION HAZARD

FLAMMABILITY CLASSIFICATION:

FLASH POINT: >200 F

LEL: Not Flammable

UEL: Not Flammable

OSHA - Not Flammable

DOT - Not Flammable

EXTINGUISHING MEDIA: Whatever media is appropriate for the surrounding fire.

**SECTION IV - FIRE AND EXPLOSION DATA (CONTINUED)**

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Material was found to be corrosive on synthetic skin in tests for DOT classification. Material contains a toxic oxidizer (sodium nitrite). May produce noxious and/or toxic and/or oxidizing gases under fire conditions. May produce noxious and/or toxic and/or oxidizing gases if contact with acid or other incompatible chemical occurs. If evaporated to dryness, residual solid is an oxidizer. Upon contact with combustibles, dried sodium nitrite may allow the ignition of those combustibles at temperatures which would not normally induce combustion, or it may intensify an existing fire.

**SPECIAL FIREFIGHTING PROCEDURES:** Approach fire from upwind direction. Wear self-contained breathing apparatus and protective clothing. Cool fire exposed containers with water as fog or spray.

**SECTION V - HEALTH HAZARD DATA**

**EFFECTS OF OVEREXPOSURE:** May be harmful or fatal if swallowed. Also harmful if inhaled. Nitrites are readily absorbed by lung tissue. Toxic effect is due to the formation of methemoglobin in the blood. Symptoms of overexposure may include cyanosis (bluish discoloration of the skin), low blood pressure with headache and fainting, nausea, weakness, dizziness, loss of coordination, shortness of breath, increased pulse rate, or loss of consciousness. May be irritating or corrosive to eyes, skin, and mucous membranes following contact. Symptoms following skin or eye contact may include redness, itching, or burns. LD50 for sodium nitrite is reported between 85 and 180 mg/kg. The lowest toxic dose to a human victim reported in the scientific literature is 14 mg/kg.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Diseases of the eye, skin, respiratory system, or red blood cells.

**PRIMARY ROUTE(S) OF ENTRY:** Contact Ingestion Inhalation

**EMERGENCY AND FIRST AID PROCEDURES:** If swallowed, induce vomiting immediately as directed by medical personnel. Potential toxic effects of sodium nitrite are more significant than the potential for burns or irritation to the upper gastrointestinal tract. Contact a poison control center for guidance. Never give anything by mouth to an unconscious person. Get medical attention. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. In case of contact, immediately flush skin or eyes with water for 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. Get medical attention.

**SECTION VI - REACTIVITY DATA**

**STABILITY:** This product is stable under normal storage conditions.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Decomposition may produce oxides of nitrogen, oxygen, carbon monoxide, and carbon dioxide. The decomposition temperature of sodium nitrite is reported between 610 F and 915 F.

**CONDITIONS TO AVOID:** Avoid contact with acid or incompatible chemical. Contact with acid or other incompatible material may generate nitrogen dioxide (reddish brown or orange gas) or other toxic and/or oxidizing oxides of nitrogen. Avoid heat or flame. Keep container closed when not in use.

**INCOMPATIBILITY:** Avoid contact with acids, ammonium salts, amines, activated carbon, cyanides, thiocyanates, thiosulfates, sulfides, sulfites, hydrogen, hydrazine, or other reducing agents. May react with secondary or tertiary amines to form potentially carcinogenic nitrosamines.

**SECTION VII - SPILL OR LEAK PROCEDURES**

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** Danger. Corrosive material containing an ingredient which is a toxic oxidizer. Avoid inhalation of product mist or any off gases resulting from contact with other materials. Wear personal protective equipment to prevent contact or inhalation. Contain and collect spills with sand, cement, or nonflammable commercial absorbents. Do not pick up spilled material on combustible rags or sawdust. Check current DOT regulations for suitable containers for shipment of waste. Material may be toxic to fish. If spill escapes to sanitary sewer or if intentional discharge of aqueous spill residues occur, notify local public works authorities. If spill escapes to the environment, notify state and federal EPA and, if appropriate, the Coast Guard. The CERCLA RQ for Midland 754 is 333 pounds based on sodium nitrite content (40CFR302.4).

**WASTE DISPOSAL METHOD:** Unused product or spill cleanup residues may be RCRA hazardous by characteristic of ignitability (D001). Consult local authorities for appropriate waste disposal options in your location.

**SECTION VIII - SAFE HANDLING AND USE INFORMATION**

**RESPIRATORY PROTECTION:** None required under normal handling conditions. If misting is a problem, use NIOSH approved respirator for liquid non-oil based aerosols.

**VENTILATION:** General mechanical exhaust ventilation is adequate.

**PROTECTIVE GLOVES:** Wear industrial rubber gloves. Suitable glove materials would include PVC, neoprene, nitrile, natural rubber, and butyl rubber.

**EYE PROTECTION:** Chemical splash goggles and/or full face shield.

**OTHER PROTECTIVE EQUIPMENT:** Wear long sleeve clothing and long pants or coveralls. Access to emergency eye wash fountains and safety showers is recommended. If material is underfoot, as in a spill cleanup, wear rubber boots. If extensive handling of material is anticipated, wear rubber apron.

**HYGIENIC PRACTICES:** Minimize skin contact. Wash with soap and water before eating, drinking, smoking, or using toilet facilities.

**SECTION IX - SPECIAL PRECAUTIONS**

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:** Store product in closed container in well ventilated area away from acids, reducing agents, and other incompatible materials listed in Section VI. Avoid spillage. Dilute and clean up small spills promptly. Protect product from contamination. Empty containers retain product residues and all label hazards are still present until container is thoroughly cleaned. The recommended disposal for rinse waters from empty units is discharge to the treated system.

**OTHER PRECAUTIONS:** Midland recommends against the use of contact lenses by workers who handle this industrial chemical as such usage may complicate first aid activities if eye contact occurs. The user of this material has the responsibility to dispose of unused material, residues, and containers in compliance with all relevant local, state, and federal regulations.

SECTION X - OTHER INFORMATION
-------------------------------

HMS RATING: Health: 3 Flammability: 0 Reactivity: 0 Personal Protective Equip.: D

NFPA RATING: Health: 3 Flammability: 0 Reactivity: 0 Special: OX

DOT INFO. :

If <333 pounds -

SHIPPING NAME; Corrosive liquids, basic, inorganic, n.o.s. (sodium nitrite) PG II

ID NO.: UN3266

HAZARD CLASS: 8

If >333 pounds

"RQ" precedes above shipping description.