

MATERIAL SAFETY DATA SHEET

SECTION I – PRODUCT & COMPANY IDENTIFICATION

Product Name: Norsol Cleaner NFO Powder
Product Use: Aluminum Surface Preparation
Manufacturer: Contact supplier
Supplier: Northern Technical Solutions Inc.
Address: 7040 Wellington Rd 124 South
Guelph, ON N1H 6J3
Telephone Number: 519-766-9899
Emergency Telephone Number: 519-766-9899

SECTION 2 – HAZARDOUS INGREDIENTS

Chemical Name	CAS#	Wt%	ACGIH-TLVs 8 hr TWA	LC ₅₀ (4 hr, Rat)	LD ₅₀ (Oral, Rat)
Sodium tetraborate decahydrate	1303-96-4	40 - 70	2 mg/m ³ (inhalable)	Not available	2660 mg/kg
Sodium tripolyphosphate	7758-29-4	10 - 30	Not available	Not available	3120 mg/kg
Trisodium phosphate dodecahydrate	10101-89-0	10 - 30	Not available	Not available	2460 mg/kg
Polyoxyalkylene decyl ether	68439-30-5	1 - 5	Not available	Not available	Not available

SECTION 3 – HAZARDS

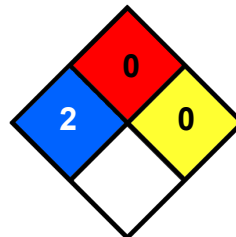
Emergency Overview: CAUTION. IRRITANT. MAY IRRITATE EYES AND SKIN. MAY CAUSE CHRONIC EFFECTS. CONTAINS A CHEMICAL WHICH MAY DAMAGE THE REPRODUCTIVE SYSTEM.

WHMIS: D2A – Chronic Toxic Effects; D2B – Acute Toxic Effects



HMIS & NFPA:

HEALTH	* 2
FLAMMABILITY	0
PHYSICAL HAZARD	0
PPE	C



Legend	
Extreme Danger	4
Serious	3
Moderate	2
Slight	1
Minimal	0
Chronic	*

TDG/DOT: NOT REGULATED

Target Organs: Eyes, skin, respiratory system, reproductive system.

SECTION 4 - FIRST AID MEASURES

Eyes: Immediately flush eye(s) with lukewarm, gently flowing water continuously for at least 20 minutes, while holding the eyelid(s) open. Obtain medical attention immediately.

Skin: Remove contaminated clothing and flush skin with plenty of water for at least 20 minutes. Obtain medical attention if symptoms persist.

Inhalation: Move victim to fresh air. Obtain medical attention if symptoms persist.

Ingestion: Obtain medical attention immediately. Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point (°C - TCC): Not available.

LEL: Not available.

UEL: Not available.

Hazardous Combustion Products: Oxides of carbon, oxides of boron, oxides of phosphorus.

Autoignition Temperature (°C): Not available.

Extinguishing Media: Dry chemical, carbon dioxide.

Fire Fighting Procedures: Fire-fighters should wear full protective gear with self-contained breathing apparatus (SCBA).

Fire and Explosion Hazards: None known.

Sensitivity to Mechanical Impact: Not available.

Sensitivity to Static Discharge: Not available.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions: Before attempting clean-up, refer to Section 8 personal protection. Contact emergency services and supplier for advice.

Spill Response: Evacuate unprotected and untrained personnel from the area. The spill should be handled by qualified personnel only. Contain spill. Collect the spilled material and clean up the area. Place waste materials in a closed container suitable for disposal. Refer to Section 13 for disposal considerations.

SECTION 7 – HANDLING & STORAGE

Handling: For industrial or professional use only. As required by employer code. Avoid contact with incompatible materials. Do not get in eyes or on skin or clothing. Do not breathe dust. Use only in a well-ventilated area or with respiratory protection. Do not swallow. Do not eat, drink, or smoke in work areas. Remove contaminated clothing and discard or wash before reuse. Maintain good industrial hygiene practices.

Storage: As required by employer code. Keep container closed when not in use. Store in a cool, dry, well-ventilated area. Store away from incompatible materials. Store away from heat. Keep out of direct sunlight. Maintain good industrial hygiene practices.

SECTION 8 – PERSONAL PROTECTIVE EQUIPMENT & EXPOSURE CONTROLS

Eye/Face Protection: As required by employer code. Avoid contact. Wear chemical safety goggles.

Hand Protection: As required by employer code. Avoid contact. Wear rubber gloves. Select and use gloves based on the results of a workplace exposure assessment. Consult ACGIH or your glove manufacturer for selection of appropriate compatible materials.

Skin Protection: As required by employer code. Avoid contact. Wear appropriate equipment as necessary to prevent exposure. Select and use protective equipment based on the results of a workplace exposure assessment. Consult ACGIH or your equipment manufacturer for selection of appropriate compatible materials.

Respiratory Protection: As required by employer code. Do not breathe dust. Wear appropriate respiratory protection if ventilation is not adequate. Select and use NIOSH approved respiratory equipment based on the results of a workplace exposure assessment.

Ingestion: Do not swallow. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

Ventilation: Use only in a well-ventilated area or with respiratory protection.

Engineering Controls: Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below exposure limits. Have a safety shower and eye-wash fountain readily available in the immediate work area.



EXPOSURE LIMITS:

<u>Chemical Name</u>	<u>ACGIH TLV – 15 min STEL</u>	<u>ACGIH TLV – 8 hr TWA</u>	<u>OSHA PEL - 8 hr TWA</u>
Sodium tetraborate decahydrate	6 mg/m ³	2 mg/m ³ (inhalable)	Not available

SECTION 9 – PHYSICAL & CHEMICAL PROPERTIES

Physical State: Solid

pH: 8.9 - 9.4

Vapour Density (Air = 1): Not available

Volatiles (Wt%): Not available

Viscosity: Not available

Solubility in Water: Miscible

Vapour Pressure: Not available

Boiling Point (°C): Not available

Odour Threshold (ppm): Not available

Appearance; Odour: White powder; Not available

Flash Point (°C - TCC): Not available

Autoignition Temperature (°C): Not available

Evaporation Rate (Ether =1): Not available

Upper Explosive Limit (UEL): Not available

Lower Explosive Limit (LEL): Not available

Freezing/Melting Point: Not available

Specific Gravity (water =1): Not available

Coefficient of water/oil: Not available

SECTION 10 – STABILITY & REACTIVITY

Chemical stability: Stable. Hazardous polymerization will not occur.

Incompatible Materials: Oxidizing agents, reducing agents, strong acids.

Conditions to Avoid: Avoid generating dust.

Hazardous Decomposition Products: Oxides of carbon, oxides of boron, oxides of phosphorus.

Notice: Information for this MSDS was obtained from sources considered accurate and reliable. The above information is believed to be correct but does not purport to be all inclusive and should be used only as a guide. As conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained in accordance with all applicable occupational health and safety requirements. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this MSDS.

SECTION 11 - TOXICOLOGICAL INFORMATION

Routes of Entry: Eyes, Skin, Inhalation, Ingestion

HEALTH EFFECTS FROM ACUTE EXPOSURE:

Eyes: May cause irritation. Symptoms may include redness, swelling, pain, tears and blurred vision.

Skin: May cause irritation. Symptoms may include localized redness, swelling, itching and pain.

Inhalation: May cause respiratory tract irritation.

Ingestion: May cause irritation of the gastrointestinal tract. Symptoms may include pain, nausea, vomiting, and diarrhea.

ACUTE TOXICITY DATA:

<u>Chemical & CAS#</u>	<u>RTECS #</u>	<u>Rat - Inhalation 4 hours</u> <u>LC₅₀</u>	<u>Rabbit - Dermal</u> <u>LD₅₀</u>	<u>Rat - Ingestion</u> <u>LD₅₀</u>
Sodium tetraborate decahydrate (1303-96-4)	VZ2275000	Not available	Not available	2660 mg/kg
STPP (7758-29-4)	YK4570000	Not available	>4640 mg/kg	3120 mg/kg
TSP (10101-89-0 as 7601-54-9)	TC9490000	Not available	Not available	2460 mg/kg

HEALTH EFFECTS FROM CHRONIC EXPOSURE: Prolonged or repeated exposure to borates may cause harmful effects to the male reproductive system.

Aggravation of Pre-existing Conditions: Insufficient data available.

Skin: Prolonged or repeated exposure can cause drying, defatting and dermatitis.

Irritancy: Hazardous by WHMIS/OSHA criteria.

Sensitization: Insufficient data available.

Reproductive Effects: Hazardous by WHMIS/OSHA criteria. Male laboratory animals exposed to borates had damaged testes, sperm production, and fertility.

Teratogenicity: Insufficient data available.

Mutagenicity: Insufficient data available.

Carcinogenicity: Insufficient data available.

Toxicologically Synergistic Materials: No data available.

SECTION 12 - ECOLOGICAL INFORMATION

Environmental Effects: Not determined.

Ecotoxicity data:

TSP (10101-89-0 as 7601-54-9): Blue gill/Sunfish - 96 hour LC50:220 mg/L
Daphnia magna - 48 hour LC50: 177 mg/L

Ecofate Data: Not determined.

SECTION 13 – DISPOSAL CONSIDERATIONS

Disposal: Consult applicable regulations and authorities prior to disposal.

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SECTION 14 - TRANSPORTATION

Transportation of Dangerous Goods (TDG): NOT REGULATED

US Department of Transportation (DOT): NOT REGULATED

SECTION 15 - REGULATORY INFORMATION

CANADA: The components of this product are listed on the Domestic Substances List (DSL) or are exempt.

This controlled product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR.

WHMIS Classification: D2A, D2B

Hazardous Products Act - Ingredient Disclosure List (IDL):

Chemical	CAS#	Cut-Off
Sodium tetraborate	1303-96-4	1%

UNITED STATES: The components of this product are listed on the Toxic Substances Control Act (TSCA) inventory list or are exempt.

OSHA: This product is considered Hazardous as defined by the OSHA Hazard Communication Standard Code of Federal Regulations, 29 CFR 1910.1200.

Title III SARA/EPCRA Sections 311 & 312 - Hazard Categories:

Chemical	CAS#	Fire	Pressure	Reactivity	Acute	Chronic
Sodium tetraborate decahydrate	1303-96-4	No	No	No	Yes	Yes
STPP	7758-29-4	No	No	No	Yes	No
TSP	7601-54-9	No	No	No	Yes	No
Polyoxyalkylene decyl ether	68439-30-5	Yes	No	No	Yes	Yes

Title III SARA/EPCRA Section 313 - Toxic Chemicals – Toxic Release Inventory: None listed

Title III SARA/EPCRA Sections 302 & 304 - Extremely Hazardous Substances - TPQs: None listed.

CERCLA - Hazardous Substances – Reportable Quantities:

CAS# 7758-29-4: 5000 lb/2270 Kg final RQ (as sodium phosphate, tribasic 7601-54-9)

CAS# 10101-89-0 as 7601-54-9: 5000 lb/2270 Kg final RQ

RCRA: Non Hazardous.

Clean Air Act (CAA):

Does not contain any hazardous air pollutants.

Does not contain any Class 1 Ozone depleters.

Does not contain any Class 2 Ozone depleters.

Clean Water Act (CWA):

CAS# 7758-29-4 is listed as a Hazardous Substance under the CWA.

CAS# 10101-89-0 as 7601-54-9 is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

SECTION 16 - OTHER INFORMATION

MSDS Prepared by: Technical Service. Contact supplier for information.

Date: April 23, 2012

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