SAFETY DATA SHEET

US OSHA Hazard Communication Standard (29 CFR 1910.1200) and Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Issuing Date 03-Aug-2021 **Revision Date** 03-Aug-2021 **Revision Number** 1

1. Identification

Product identifier

Product Name Nitroset Solid Propellant Fasteners

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Fasteners for concrete and steel

Restrictions on use For professional use only.

Details of the supplier of the safety data sheet

Initial supplier identifier
FBM Vaughan, Ontario
91 Caldari Road, Unit #3
Vaughan, ON L4K 3Z9
Phone: 905-660-4456
Fax: 905-660-5593
Toll-Free: 866-240-8887

Supplier Address
Nitroset, LLC
5600 Bonhomme Rd. Suite D
Houston, TX 77036
800-524-4649

E-mail sales@nitroset.com

Emergency telephone number

Emergency telephone +1 800-524-4649
+1 713-780-8361

2. Hazard(s) identification

Classification

Specific target organ toxicity (repeated exposure)	Category 2

Label elements

Warning

Hazard statements
May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements - Prevention
Do not breathe dust, fume, gas, mist, vapors and spray.
Precautionary Statements - Response
Get medical advice/attention if you feel unwell.
Precautionary Statements - Disposal
Dispose of contents and container to an approved waste disposal plant.

Other information
May be harmful if swallowed. Harmful to aquatic life with long lasting effects. Harmful to aquatic life.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Iron	7439-89-6	77	-	-
Nitrocellulose	9004-70-0	10	-	-
Carbon, activated	7440-44-0	5	-	-
ABS resin	9003-56-9	4	-	-
Methylcellulose	9004-67-5	2	-	-
Diphenylamine	122-39-4	2	-	-

4. First-aid measures

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Not an expected route of exposure. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if symptoms occur.

Skin contact IF ON SKIN: Wash with plenty of soap and water. Get medical attention if symptoms occur.

Ingestion Not an expected route of exposure. IF SWALLOWED: Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Most important symptoms and effects, both acute and delayed

Symptoms None known.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media Confining and smothering metal fires is preferable rather than applying water. Special powder against metal fire.

Unsuitable extinguishing media DO NOT USE WATER, FOAM OR CO2.

Specific hazards arising from the chemical Dousing metallic fires with water may generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.).

Hazardous combustion products Hazardous metal fumes and oxides.

Explosion data
Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid breathing dust or vapor.

Other information Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use personal protective equipment as required. Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Use personal protection equipment. Do not eat, drink or smoke when using this product. Avoid breathing dust or vapor. Keep away from food, drink and animal feeding stuffs.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep/store only in original container. Protect from physical damage. Store away from incompatible materials.

8. Exposure controls/personal protection

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Diphenylamine 122-39-4	TWA: 10 mg/m³	(vacated) TWA: 10 mg/m³	TWA: 10 mg/m³

Chemical name	Alberta	British Columbia	Ontario	Quebec
Diphenylamine 122-39-4	TWA: 10 mg/m³	TWA: 10 mg/m³	TWA: 10 mg/m³	TWA: 10 mg/m³

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear suitable gloves.

Skin and body protection Wear suitable protective clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Take off contaminated clothing and wash before reuse.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance Steel fastener with compressed solid nitrocellulose based tablet
Physical state Solid
Color Silver, White
Odor None
Odor threshold No information available

Property	Values	Remarks • Method
pH		No data available
Melting point / freezing point		No data available
Initial boiling point and boiling range		No data available
Flash point		No data available
Evaporation rate		No data available
Flammability		No data available
Flammability Limit in Air		
Upper flammability or explosive limits		No data available
Lower flammability or explosive limits		No data available
Vapor pressure		No data available
Vapor density		No data available
Relative density		No data available
Water solubility		No data available
Solubility(ies)		No data available

Partition coefficient	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Kinematic viscosity	No data available
Dynamic viscosity	No data available

Other information

Explosive properties	No information available.
Oxidizing properties	No information available.
Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available

10. Stability and reactivity

Reactivity None under normal use conditions.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions Many metals may incandesce, react violently, ignite or react explosively upon addition of concentrated nitric acid. Can react exothermically with oxidizing acids to form noxious gases. Reacts with acids producing flammable / explosive hydrogen gas.

Conditions to avoid Incompatible materials.

Incompatible materials Incompatible with oxidizing agents. Acids. Water. Peroxides. Nitric acid. Borohydrides. Cyanoborohydrides. Halogenated hydrocarbons. Chlorine trifluoride. Bromine trifluoride. Azo compounds. Diazo compounds.

Hazardous decomposition products Hazardous metal fumes and oxides.

11. Toxicological information

Information on likely routes of exposure

Product Information If dust is generated, the following information is provided.

Inhalation Specific test data for the substance or mixture is not available. Inhalation of dust in high concentration may cause irritation of respiratory system.

Eye contact Specific test data for the substance or mixture is not available. Dust contact with the eyes can lead to mechanical irritation.

Skin contact Specific test data for the substance or mixture is not available. Contact with dust can cause mechanical irritation or drying of the skin.

Ingestion Specific test data for the substance or mixture is not available. May be harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms None known.

Acute toxicity

Numerical measures of toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Iron	= 30 g/kg (Rat)	-	-
Nitrocellulose	> 5 g/kg (Rat)	-	-
Carbon, activated	> 10000 mg/kg (Rat)	-	-
Diphenylamine	= 1120 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity Based on available data, the classification criteria are not met. IARC has classified ingested nitrate and nitrite ions as Group 2A carcinogens, for which food and water are the major pathways of human exposure. Individual nitrate and nitrite compounds were not evaluated individually.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Nitrocellulose 9004-70-0	-	Group 2A	-	X
ABS resin 9003-56-9	-	Group 3	-	-

Legend

IARC (International Agency for Research on Cancer)
Group 2A - Probably Carcinogenic to Humans
Group 3 - Not Classifiable as to Carcinogenicity in Humans

OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Target organ effects Respiratory system. Eyes. Skin. Blood. Central Vascular System (CVS). Reproductive system. Bladder.

Aspiration hazard No information available.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Diphenylamine 122-39-4	EC50: =1.5mg/L (72h, Scenedesmus subspicatus)	LC50: 3.47 - 4.14mg/L (96h, Pimephales promelas)	-	EC50: 1.69 - 2.46mg/L (48h, Daphnia magna)

Persistence and degradability No information available.

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Diphenylamine 122-39-4	3.4

Mobility in soil No information available.

Other adverse effects No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations, Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

California waste information This product contains one or more substances that are listed with the State of California as a hazardous waste.

14. Transport information

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG Not regulated

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories
Contact supplier for inventory compliance status

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Diphenylamine - 122-39-4	1.0

SARA 311/312 Hazard Categories
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Nitrocellulose 9004-70-0	X	X	X
Diphenylamine 122-39-4	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA	**Health hazards** 1	**Flammability** 0	**Instability** 0	**Special hazards** -
HMIS	**Health hazards** 1*	**Flammability** 0	**Physical hazards** 0	**Personal protection** X

Chronic Hazard Star Legend ** = Chronic Health Hazard*

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet