



Hodgdon Powder Smokeless Propellants-For EU Distribution only

SAFETY DATA SHEET

February 2022

H110® (**EX-2012100357**)

HP38® (**EX-2013060589**)

HS-6® (**EX-2013060589**)

LEVEREVOLUTION® (**EX-2016090003**)

SUPERFORMANCE® (**EX-2015110877**)

Titegroup® (**EX-2015110879**)

TiteWad® (**EX-2016100343**)

CFE®223 (**EX-2015110877**)

CFE® Pistol (**EX-2015110879**)

US869® (**EX-2013031309**)

Lil'Gun® (**EX-2015110870**)

Long Shot® (**EX-2015110879**)

1.4C EX Approvals in bold parenthesis

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www.hodgdon.com * www.imrpowder.com * www.winchesterpowder.com

www.blackhorn209.com * www accuratepowder.com * www.ramshot.com

REVISION NO.: 10
REVISION DATE: 12/11/2021 (Supersedes 10/28/2020)

SECTION 1: Identification of the Substance/Mixture and the Company/Undertaking

Product identifier

PRODUCT NAME: BALL POWDER® Propellant (REACH Compliant)
SYNONYMS: Smokeless Propellant
PRODUCT CODES: WAA®, WMG®, WMR®, WRF®, WPR®, WPT®, WSX®, WCR845®, SPI, WCUNI, OBP®, SMP®, M38, M47, M48, WC231, WC235, WC294, WC295, WC296, WC297, WC320, WC330, WC350, WC450, WC540, WC663, WC665, WC668, WC669, WC680, WC685, WC687, WC814, WC815, WC816, WC818, WC819, WC864, WC869, SHP®

Recommended uses of the substance or mixture and uses advised against

Product is intended for use in smokeless propellant applications only

Details of the supplier of the safety data sheet

PREPARED BY:
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EU CONTACT INFORMATION:

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St. James Business Park
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Telephone Number: +44 (0)1423 799 633
E-mail: tsge@tsgeconsulting.com

Emergency telephone number

FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC (available 24 hours):
1-800-424-9300 US and Canada
+17035273887 International

SECTION 2: Hazards Identification

Classification of the substance or mixture

Physical Hazards Explosives Division 1.3

Product is a mixture. Health hazards are based on published data for individual ingredients of the mixture. Product as a whole has not been tested for health hazards.

Health Hazards	Acute Toxicity (oral)	Category 4
	Acute Toxicity (inhalation)	Category 2
	Eye Damage/Irritation	Category 2A
	Skin Sensitization	Category 1A
	Reproductive Toxicity	Category 1B

Specific Organ Toxicity,
Repeat Exposure

Category 2

Label Elements



Signal Word

DANGER

Hazard Statements Explosive; fire, blast or projection hazard. Harmful if swallowed. Causes serious eye irritation. May cause an allergic skin reaction. May cause damage to organs (circulatory system, blood, kidneys, liver) through prolonged or repeated exposure.

Precautionary statements

Prevention Keep away from heat. Ground or bond container and receiving equipment. Do not subject to shock or friction. Wear protective gloves, protective clothing and eye protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust.

Response Explosion risk. In case of fire: Evacuate area. Use water to extinguish. Do NOT fight fire when fire reaches explosives. If swallowed: Call a poison control center or doctor if you feel unwell. Rinse mouth. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If on skin: Wash with plenty of water. If eye or skin rash or irritation persists: Call a doctor. Wash contaminated clothing before reuse.

Storage/Disposal Store in a well-ventilated place away from direct sunlight. Keep container tightly closed. Store away from ignition sources. Store and dispose of container, waste and residues in accordance with all applicable legal and regulatory requirements.

SECTION 3: Composition/Information on Ingredients

Substances

Product is a mixture.

Mixtures

COMPONENT	EC NO.	CAS NO.	REACH REG. NO. (see note)	WEIGHT %	CLASSIFICATION PER REGULATION (EC) NO. 1272/2008
Nitrocellulose	936-908-7	9004-70-0	Not Available	50-100	Expl. 1.1 H201 Flam. Solid 1 H228
Nitroglycerin	200-240-8	55-63-0	Not Available	0-42	Unst. Expl. H200 Acute Tox. 2 H300 oral Acute Tox. 1 H310 derm. Acute Tox. 1 H330 inh. STOT RE 2 H373 inh. Aquatic Chronic 2 H411

COMPONENT	EC NO.	CAS NO.	REACH REG. NO. (see note)	WEIGHT %	CLASSIFICATION PER REGULATION (EC) NO. 1272/2008
Ethyl Centralite (diethyldiphenylurea)	291-645-2	85-98-3	Not Available	0-10	Eye Irrit. 2 H319 STOT SE 3 H335 Skin Irrit. 2 H315
Rosin	232-475-7	8050-09-7	Not Available	0-5	Skin Sens. 1 H317
Potassium Nitrate	231-818-8	7757-79-1	Not Available	0-3	Oxid. Solid 3 H272 Eye Irrit. 2 H319 Skin Irrit. 2 H315 STOT SE 3 H335
Potassium Sulfate	231-915-5	7778-80-5	Not Available	0-3	None (Not classified as hazardous)
Ethyl Acetate	205-500-4	141-78-6	Not Available	0-2	Flam. Liq. 2 H225 Eye Irrit. 2 H319 STOT SE 3 H336
Diphenylamine	204-539-4	122-39-4	Not Available	0-1.5	Acute Tox. 2 H330 inh. Acute Tox. 3 H300 oral Acute Tox. 3 H310 derm. STOT RE 2 H373 Aquatic Acute 1 H400 Aquatic Chronic 2 H411
N-Nitrosodiphenylamine	201-663-0	86-30-6	Not Available	0-1.5	Acute Tox. 4 H332 inh. Acute Tox. 4 H312 skin Acute Tox. 4 H302 skin Aquatic Chronic 2 H411
Tin Dioxide	242-159-0	18282-10-5	Not Available	0-1.5	None (Not classified as hazardous)
Calcium Carbonate	207-439-9	1317-65-3	Not Available	0-1	None (Not classified as hazardous)
Graphite	231-955-3	7782-42-5	Not Available	0-1	None (Not classified as hazardous)

NOTE: Where the REACH Registration No. is shown as "Not Available", either the registration deadline has not yet occurred, or the quantity imported into the EU by the importer has not exceeded the threshold for registration.

SECTION 4: First Aid Measures

Description of first aid measures

Inhalation Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear, give oxygen and continue to monitor. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). Keep affected person warm and at rest. Get immediate medical attention.

Skin contact Immediately wash exposed skin with plenty of soap and water while removing contaminated clothing and shoes. May be absorbed through the skin in harmful amounts. Call a physician if you feel unwell. Wash clothing before re-use. If

clothing is to be laundered, inform the person performing the operation of the contaminants hazardous properties.

Eye contact Do not rub eyes. Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids wide apart. If eye irritation develops, call a physician.

Ingestion Rinse mouth thoroughly with water and give large amounts water to people not unconscious. Do NOT induce vomiting. Get immediate medical attention. Do not give anything by mouth if the person is unconscious or if having convulsions.

Most important symptoms and effects, both acute and delayed

Eye irritation. Symptoms may include itching, burning, redness and tearing. Skin contact may cause redness and pain. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. High concentrations of dust may irritate throat and respiratory system and cause coughing. A drop in blood pressure, headache, cyanosis and mental confusion may result from nitroglycerin in the product.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim under observation.

SECTION 5: Firefighting Measures

Suitable extinguishing media Large volumes of water should be applied as quickly as possible from automatic sprinklers or fire hose.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this may spread fire.

Specific hazards arising from the product mixture Toxic vapors/gases may be formed during a fire. Combustion products vary depending on fire conditions and other combustibles present. The predominant products will be carbon dioxide and oxides of nitrogen. Under some conditions, methane, carbon monoxide, irritating aldehydes and carboxylic acids, ammonia and hydrogen cyanide may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus (SCBA) and full protective clothing must be worn in case of fire. This includes, but is not limited to, impervious boots, gloves, hard hat and chemically impermeable suit.

Fire-fighting equipment/instructions Fires involving smokeless propellant should NOT be fought unless extinguishing media can be applied from a well protected (e.g. behind a berm or barricade) and distant location from the point of fire.

Specific methods Evacuate personnel to a safe area according to pre-determined evacuation plan. Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards Explosive; fire, blast or projection hazard.

SECTION 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Eliminate all ignition sources. Use only non-sparking tools. Wear appropriate protective equipment and non-flammable or flame retardant clothing during clean-up. Avoid inhalation of dust. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of this SDS.

Methods and materials for containment and cleaning up

Avoid dispersal of dust in the air (e.g. clearing dust surfaces with compressed air). Clean-up spills immediately using non-sparking utensils. Wet down spilled materials prior to initiating clean-up and keep material wet until ready for disposal. Avoid contamination of water bodies during clean up and disposal. This material is heavier than water. Create an overflow dam with filtration capabilities to retain material. Collect dust using a vacuum cleaner equipped with HEPA filter. Large Spills: Sweep, shovel or vacuum up spillage and collect in suitable container for disposal. For a spillage into water: where possible, remove any intact containers from the water. Clean contaminated surfaces thoroughly to remove residual contamination. Never return spilled material to original containers for re-use. For waste disposal, see section 13 of this SDS.

SECTION 7: Handling and Storage

Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Do not subject to mechanical shock. Avoid exposure to sunlight or artificial ultraviolet light. Minimize dust generation and accumulation. Provide appropriate exhaust ventilation. Avoid breathing dust. Avoid contact with eyes, skin and clothing. Do not taste or swallow. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Smokeless powder contains stabilizers and deteriorates very slowly under proper storage conditions. Old smokeless powder should be checked for deterioration regularly. Deteriorating smokeless powder produces an acidic odor and may produce reddish-brown fumes. Dispose of deteriorating smokeless powder through, for example, controlled open burning in small quantities (products should be submerged in water until burned). Smokeless powder should not be exposed to excessive heat, as this can accelerate deterioration. Deterioration produces an acidity that accelerates further reaction and has been known, because of heat generated by the reaction, to cause spontaneous combustion.

Conditions for safe storage

The ideal condition for safe storage is at 21°C (70°F), 50% relative humidity (decomposition becomes measurable above 50°C (122°F). Propellant stored in the original container, subject to a temperature range of -40°C (-40°F) to +50°C (+122°F) and humidity ranging from tropic to arctic conditions, can be expected to perform satisfactorily and safely in the ammunition it was intended for. Keep container tightly closed. Store in a cool, dry ventilated place away from all sources of ignition. Store away from incompatible materials (see Section 10 of this SDS).

The expected shelf life when stored in accordance with the conditions of safe storage, has been demonstrated to be in excess of 20 years. It is recommended that older powders are checked for decomposition.

For additional information regarding handling and storage guidelines, see "Properties and Storage of Smokeless Powder" published by the SPORTING ARMS AND AMMUNITION MANUFACTURERS INSTITUTE, INC (SAAMI), 11 Mile High Road, Newtown, CT 06405 (www.saami.org)

SECTION 8: Exposure Controls/Personal Protection

Exposure Limits

Substance	CAS	EU	UK	Austria
Nitrocellulose	9004-70-0	N/A	N/A	N/A
Nitroglycerin	55-63-0	TWA (8 hours): 0.095 mg/m ³ STEL (15 mins): 0.19 mg/m ³	TWA (8 hours): 1.9 mg/m ³ STEL (15 mins): 1.9 mg/m ³	TWA (8 hours): 1.9 mg/m ³ STEL (15 mins): 1.9 mg/m ³
Ethyl Centralite	85-98-3	N/A	N/A	N/A
Rosin	8050-09-7	N/A	TWA (8 hours): 0.05 mg/m ³ STEL (15 mins): 0.15 mg/m ³	N/A
Potassium Nitrate	7757-79-1	N/A	N/A	N/A
Potassium Sulfate	7778-80-5	N/A	N/A	N/A
Ethyl acetate	141-78-6	TWA (8 hours): 734 mg/m ³ STEL (15 mins): 1468 mg/m ³	TWA (8 hours): 730 mg/m ³ STEL (15 mins): 1460 mg/m ³	TWA (8 hours): 1050 mg/m ³ STEL (15 mins): 2100 mg/m ³
Diphenylamine	122-39-4	N/A	TWA (8 hours): 10 mg/m ³ STEL (15 mins): 20 mg/m ³	TWA (8 hours): 5 mg/m ³ STEL (15 mins): 10 mg/m ³
N-Nitrosodiphenylamine	86-30-6	N/A	N/A	N/A
Tin Dioxide	18282-10-5	N/A	N/A	N/A
Calcium carbonate	1317-65-3	N/A	TWA (8 hours): 10 mg/m ³ STEL (15 mins): N/A	N/A
Graphite	7782-42-5	N/A	TWA (8 hours): 10 mg/m ³ STEL (15 mins): N/A	N/A

Substance	CAS	Belgium	Denmark	Finland
Nitrocellulose	9004-70-0	N/A	N/A	N/A
Nitroglycerin	55-63-0	TWA (8 hours): 0.47 mg/m ³ STEL: N/A	TWA (8 hours): 0.2 mg/m ³ STEL (15 mins): 0.2 mg/m ³	TWA (8 hours): 0.3 mg/m ³ STEL (15 mins): 1.0 mg/m ³
Ethyl Centralite	85-98-3	N/A	N/A	N/A
Rosin	8050-09-7	N/A	N/A	N/A
Potassium Nitrate	7757-79-1	N/A	N/A	N/A

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Substance	CAS	Belgium	Denmark	Finland
Potassium Sulfate	7778-80-5	N/A	N/A	N/A
Ethyl acetate	141-78-6	TWA (8 hours): 1461 mg/m ³ STEL (15 mins): N/A	TWA (8 hours): 540 mg/m ³ STEL (15 mins): 1080 mg/m ³	TWA (8 hours): 1100 mg/m ³ STEL (15 mins): 1800 mg/m ³
Diphenylamine	122-39-4	TWA (8 hours): 10 mg/m ³ STEL (15 mins): N/A	TWA (8 hours): 5 mg/m ³ STEL (15 mins): 10 mg/m ³	TWA (8 hours): 5 mg/m ³ STEL (15 mins): 10 mg/m ³
N-Nitrosodiphenylamine	86-30-6	N/A	N/A	N/A
Tin Dioxide	18282-10-5	N/A	N/A	TWA (8 hours): 2 mg/m ³ STEL (15 mins): N/A
Calcium carbonate	1317-65-3	TWA (8 hours): 10 mg/m ³ STEL (15 mins): N/A	N/A	N/A
Graphite	7782-42-5	TWA (8 hours): 2 mg/m ³ STEL (15 mins): N/A	TWA (8 hours): 2.5 mg/m ³ STEL (15 mins): N/A	TWA (8 hours): 2 mg/m ³ STEL (15 mins): N/A

Substance	CAS	France	Germany	Hungary
Nitrocellulose	9004-70-0	N/A	N/A	N/A
Nitroglycerin	55-63-0	TWA (8 hours): 1 mg/m ³ STEL (15 mins): N/A	TWA (8 hours): 0.094 mg/m ³ STEL (15 mins): 0.094 mg/m ³	TWA (8 hours): 0.5 mg/m ³ STEL (15 mins): 2 mg/m ³
Ethyl Centralite	85-98-3	N/A	N/A	N/A
Rosin	8050-09-7	N/A	N/A	N/A
Potassium Nitrate	7757-79-1	N/A	N/A	N/A
Potassium Sulfate	7778-80-5	N/A	N/A	N/A
Ethyl acetate	141-78-6	TWA (8 hours): 1400 mg/m ³ STEL (15 mins): N/A	TWA (8 hours): 750 mg/m ³ STEL (15 mins): 1500 mg/m ³	TWA (8 hours): 1400 mg/m ³ STEL (15 mins): 1400 mg/m ³
Diphenylamine	122-39-4	TWA (8 hours): 10 mg/m ³ STEL (15 mins): N/A	TWA (8 hours): 5 mg/m ³ STEL (15 mins): 10 mg/m ³	N/A
N-Nitrosodiphenylamine	86-30-6	N/A	N/A	N/A
Tin Dioxide	18282-10-5	N/A	N/A	N/A
Calcium carbonate	1317-65-3	N/A	N/A	TWA (8 hours): 10 mg/m ³ STEL (15 mins): N/A

Substance	CAS	France	Germany	Hungary
Graphite	7782-42-5	TWA (8 hours): 2 mg/m ³ STEL (15 mins): N/A	TWA (8 hours): 4 mg/m ³ STEL (15 mins): N/A	N/A

Substance	CAS	Ireland	Latvia	Poland
Nitrocellulose	9004-70-0	N/A	N/A	N/A
Nitroglycerin	55-63-0	TWA (8 hours): 0.5 mg/m ³ STEL (15 mins): N/A	N/A	TWA (8 hours): 0.5 mg/m ³ STEL (15 mins): 1 mg/m ³
Ethyl Centralite	85-98-3	N/A	N/A	N/A
Rosin	8050-09-7	N/A	TWA (8 hours): 0.05 mg/m ³ STEL (15 mins): N/A	N/A
Potassium Nitrate	7757-79-1	N/A	TWA (8 hours): 5 mg/m ³ STEL (15 mins): N/A	N/A
Potassium Sulfate	7778-80-5	N/A	TWA (8 hours): 10 mg/m ³ STEL (15 mins): N/A	N/A
Ethyl acetate	141-78-6	TWA (8 hours): 720 mg/m ³ STEL (15 mins): 1440 mg/m ³	TWA (8 hours): 200 mg/m ³ STEL (15 mins): N/A	TWA (8 hours): 200 mg/m ³ STEL (15 mins): 600 mg/m ³
Diphenylamine	122-39-4	TWA (8 hours): 10 mg/m ³ STEL (15 mins): 20 mg/m ³	N/A	N/A
N-Nitrosodiphenylamine	86-30-6	N/A	N/A	N/A
Tin Dioxide	18282-10-5	N/A	N/A	N/A
Calcium carbonate	1317-65-3	N/A	N/A	N/A
Graphite	7782-42-5	TWA (8 hours): 10 mg/m ³ STEL (15 mins): N/A	TWA (8 hours): 2 mg/m ³ STEL (15 mins): N/A	N/A

Substance	CAS	Spain	Sweden	Switzerland
Nitrocellulose	9004-70-0	N/A	N/A	N/A
Nitroglycerin	55-63-0	TWA (8 hours): 0.5 mg/m ³ STEL (15 mins): N/A	TWA (8 hours): 0.3 mg/m ³ STEL (15 mins): 0.9 mg/m ³	TWA (8 hours): 0.094 mg/m ³ STEL (15 mins): 0.094 mg/m ³
Ethyl Centralite	85-98-3	N/A	N/A	N/A
Rosin	8050-09-7	N/A	N/A	N/A
Potassium Nitrate	7757-79-1	N/A	N/A	N/A
Potassium Sulfate	7778-80-5	N/A	N/A	N/A
Ethyl acetate	141-78-6	TWA (8 hours): 400 mg/m ³ STEL (15 mins): N/A	TWA (8 hours): 500 mg/m ³ STEL (15 mins): 1100 mg/m ³	TWA (8 hours): 1400 mg/m ³ STEL (15 mins): 2800 mg/m ³

Substance	CAS	Spain	Sweden	Switzerland
Diphenylamine	122-39-4	TWA (8 hours): 10 mg/m ³ STEL (15 mins): N/A	TWA (8 hours): 4 mg/m ³ STEL (15 mins): 12 mg/m ³	TWA (8 hours): 10 mg/m ³ STEL (15 mins): N/A
N-Nitrosodiphenylamine	86-30-6	N/A	N/A	N/A
Tin Dioxide	18282-10-5	N/A	N/A	N/A
Calcium carbonate	1317-65-3	TWA (8 hours): 10 mg/m ³ STEL (15 mins): N/A	N/A	TWA (8 hours): 3 mg/m ³ STEL (15 mins): N/A
Graphite	7782-42-5	TWA (8 hours): 2 mg/m ³ STEL (15 mins): N/A	TWA (8 hours): 5 mg/m ³ STEL (15 mins): N/A	TWA (8 hours): 5 mg/m ³ STEL (15 mins): N/A

Substance	CAS	Italy
Nitrocellulose	9004-70-0	N/A
Nitroglycerin	55-63-0	N/A
Ethyl Centralite	85-98-3	N/A
Rosin	8050-09-7	N/A
Potassium Nitrate	7757-79-1	N/A
Potassium Sulfate	7778-80-5	N/A
Ethyl acetate	141-78-6	N/A
Diphenylamine	122-39-4	N/A
N-Nitrosodiphenylamine	86-30-6	N/A
Tin Dioxide	18282-10-5	N/A
Calcium carbonate	1317-65-3	N/A
Graphite	7782-42-5	N/A

Source for above data: Based on GESTIS International Limit values Database via
<http://www.dguv.de/ifa/Gefahrstoffdatenbanken/GESTIS-Internationale-Grenzwerte-f%C3%BCr-chemische-Substanzen-limit-values-for-chemical-agents/index-2.jsp>.

Substance	CAS	Czech Republic	Lithuania	Bulgaria
Nitrocellulose	9004-70-0	N/A	N/A	N/A
Nitroglycerin	55-63-0	PEL: 0.5 mg/m ³ NPK: 1.0 mg/m ³	IPRD: 0.3 mg/m ³ TPRD: 0.9 mg/m ³	N/A
Ethyl Centralite	85-98-3	N/A	N/A	N/A
Rosin	8050-09-7	PEL: 1.0 mg/m ³ NPK: N/A	N/A	N/A
Potassium Nitrate	7757-79-1	N/A	IPRD: 5 mg/m ³ TPRD: N/A	TWA (8h) 5 mg/m ³ STEL: N/A
Potassium Sulfate	7778-80-5	N/A	IPRD: 10 mg/m ³ TPRD: N/A	N/A

Substance	CAS	Czech Republic	Lithuania	Bulgaria
Ethyl acetate	141-78-6	PEL: 700 mg/m ³ NPK: 900 mg/m ³	IPRD: 500 mg/m ³ TPRD: N/A	TWA (8h) 800 mg/m ³ STEL: N/A
Diphenylamine	122-39-4	PEL: 10 mg/m ³ NPK: 20 mg/m ³	IPRD: 4 mg/m ³ TPRD: 12 mg/m ³	TWA (8h) 10 mg/m ³ STEL: N/A
N-Nitrosodiphenylamine	86-30-6	N/A	N/A	N/A
Tin Dioxide	18282-10-5	N/A	N/A	N/A
Calcium carbonate	1317-65-3	N/A	N/A	TWA (8h) 10 mg/m ³ STEL: N/A
Graphite	7782-42-5	N/A	N/A	TWA (8h) 5 mg/m ³ (inhalable fraction) STEL: N/A

Sources of data:

Czech Republic: 9/2013 Sb. GOVERNMENT REGULATION Of 20 December 2012, Amending Government Order No. 361/2007

Lithuania: THE MINISTER OF HEALTH OF THE REPUBLIC OF LITHUANIA AND SOCIAL SECURITY AND LABOR MINISTER OF THE REPUBLIC OF LITHUANIA ORDER ON HYGIENE OF LITHUANIA HN 23: 2001 "LIMIT VALUES FOR CONCENTRATIONS OF HAZARDOUS CHEMICAL SUBSTANCES IN WORKING ENVIRONMENTAL RATE. GENERAL REQUIREMENTS"

Bulgaria: Decree No.13 of 30 December 2003 on the protection of workers against the risks of exposure to chemical agents at work.

Appropriate engineering controls

Local exhaust ventilation is recommended if significant dusting occurs. Otherwise, use general exhaust ventilation. Eye wash fountain and emergency showers are recommended.

Individual protection measures, such as personal protective equipment:

- Eye/face protection** Wear safety glasses with side shields (or goggles).
- Skin protection** Wear appropriate chemical resistant, flame retardant clothing (e.g. coveralls or lab coat).
- Hand protection** Wear chemical-resistant protective gloves (EN 374).
- Respiratory protection** Use a NIOSH/MSHA approved respirator with organic vapor cartridge and particulate filter if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.
- General hygiene considerations** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9: Physical and Chemical Properties

- Appearance** Granular grey to black colored solid
- Physical state** Solid
- Form** Granular

Color	Grey to black
Odor	Odorless
Odor threshold	Not available
pH	Not applicable
Melting point/freezing point	Not applicable
Initial boiling point/boiling range	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability (solid, gas)	Flammable Solid
Upper/lower flammability or explosive limits	Not available
Vapor pressure	<1 mm Hg
Vapor density	Not applicable
Relative density	Bulk density 0.5 - 1 (g/cc)
Solubility(ies)	Negligible in water
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	190-200°C (374-392°F)
Decomposition temperature	Decomposition becomes measurable above 50°C (122°F).
Viscosity	Not applicable
Other information	Product can explode if ignited and confined

SECTION 10: Stability and Reactivity

Reactivity	Can ignite due to mechanical shock and/or impact. Can ignite due to static discharge (minimum ignition energy 200mJ). Product can explode if ignited and confined.
Chemical stability	Unstable when exposed to sources of heat, sunlight or artificial ultraviolet light.
Possibility of hazardous Reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid contact with incompatible materials. Direct sunlight, artificial ultraviolet light, flame, and heat.
Incompatible materials	Strong acids, alkalis, oxidizers, and amines.
Hazardous decomposition products	Carbon monoxide, carbon dioxide, oxides of nitrogen. Decomposition becomes measurable above 50°C (122°F)

SECTION 11: Toxicological Information

Information on likely routes of exposure

Inhalation	Dust may irritate respiratory system.
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Skin contact	May be harmful in contact with skin. May cause skin irritation. May cause an allergic skin reaction.
Eye contact	Causes eye irritation.
Ingestion	Harmful if swallowed. Ingestion may cause gastrointestinal irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact may cause irritation, itching, burning, redness and tearing. Skin contact may cause redness and pain. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. High concentrations of dust may irritate throat and respiratory system and cause coughing. A drop in blood pressure, headache, cyanosis and mental confusion may result from nitroglycerin in the product.

Information on toxicological effects

Acute toxicity	Nitroglycerine will produce dilation of blood vessels and a drop in blood pressure which may affect the heart. It has also been shown to cause methemoglobinemia (cyanosis).
Skin corrosion/irritation	May cause skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation
Respiratory sensitization	May cause respiratory irritation.
Skin sensitization	May cause skin sensitization.
Germ cell mutagenicity	This product or any of its ingredients are not known or reported to be mutagenic
Carcinogenicity	This product contains N-Nitrosodiphenylamine, which is reported as a possible human carcinogen by IARC.
Reproductive toxicity	May damage fertility or the unborn child.
Specific target organ toxicity - single exposure	Not Classified
Specific target organ toxicity - repeated exposure	May cause damage to the circulatory system, blood, kidneys and liver through prolonged or repeated exposure.
Aspiration hazard	Due to the physical form of the product it is not an aspiration hazard.
Chronic effects	This product contains Diphenylamine, which has been shown to induce kidney damage. The low concentration of this material in, and the nature of the product, would preclude development of such an effect.

SECTION 12: Ecological Information

Ecotoxicity	Toxic to aquatic life with long lasting effects.
Persistence and degradability	No data available on product mixture.

Bioaccumulative potential	No data available on product mixture.
Mobility in soil	No data available on product mixture.
Other adverse effects	No other adverse environmental effects known.
PBT assessment	No data available on product mixture.

SECTION 13: Disposal Considerations

Disposal instructions

If material becomes a waste, it may be treated by controlled burning in small quantities if permissible by relevant regulatory agencies (such as in a RCRA permitted open burn unit or incinerator). Material should be spread into thin layers and ignited from a safe distance. Dispose of in accordance with applicable federal, state, and local regulations. Do not discharge into drains, water courses or onto the ground.

Local disposal regulations

Dispose of in accordance with local regulations.

Waste from residues/unused products

Care must be taken to prevent environmental contamination from the use of this material. The user has the responsibility to dispose of unused material, residues, and containers in compliance with all relevant laws and regulations.

Contaminated packaging

Emptied containers may contain explosive residues. Do not cut, drill, grind or weld on empty containers. Dispose of in accordance with applicable federal, state and local regulations.

SECTION 14: Transport Information

DOT / IMDG:

UN Number	UN0161
UN Proper Shipping Name	Powder, Smokeless
Transport Hazard Class(es)	1.3 C
Packing Group	Not applicable
Special precautions for user	This material is a dangerous good for transport. All involved staff must be appropriately trained.
Other information	Above classification relates to the specific packaging in which this material is supplied by the manufacturer. If the material is repackaged, this classification will no longer be relevant.

IATA:

UN Number	Forbidden
UN Proper Shipping Name	Forbidden
Transport Hazard Class(es)	Forbidden
Packing Group	Forbidden
Transport in bulk according to	Not applicable

**Annex II of MARPOL 73/78 and
the IBC Code**

SECTION 15: Regulatory Information

EU Legislation:

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.
Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents (as amended).

SECTION 16: Other Information, Including Date of Preparation or Last Revision

Revision Date: 12/11/2021
Revision No.: 10 (Supersedes 10/28/2020)

Acronyms and Abbreviations used:

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging Regulation (EC) 1272/2008
EC	European Commission
EU	European Union
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
IMDG	International Maritime Dangerous Goods
MARPOL	International Convention for the Prevention of Pollution from Ships
PBT	Persistent, Bioaccumulative and Toxic substance
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
STEL	Short term exposure limit
STOT	Specific Target Organ Toxicity
TWA	Time Weighted Average

Disclaimer

The information in this Safety Data Sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. The information contained herein was written based on the best knowledge and experience currently available and is believed to be reliable and up to date as of the date of publication, but no warranty is expressed or implied. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.