SAFETY DATA SHEET

According to 29 CFR 1910.1200(g) & Canadian WHMIS 2015

PROTAL 7200 SPRAY GRADE PART B (HARDENER) (Formerly Protal 7250)

SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking	
1.1. Product identifier	
Product name	Protal 7200 Part B (Hardener)
1.2. Relevant identified uses of the substance or mixture and uses advised against	
Product Use	Industrial use as a protective coating in prevention of corrosion.
Restricted Use	Not intended for use by general public.
1.3. Details of the supplier of the safety data sheet	
Company	Denso North America Inc.
Address	90 Ironside Crescent, Unit 12 Toronto, ON M1X 1M3
Web	www.densona.com
Telephone	1 (416) 291-3435
Fax	1 (416) 291-0898
Email	sales@densona-ca.com
1.4. Emergency telephone number	
Emergency telephone number (24 Hour)	1 (888) 226-8832 Canutec Toll Free, *666 Cellular

SECTION 2: Hazards Identification	
2.1. Classification of the substance or mixture	
2.1.1. Health	Skin Corrosion: Category 1A Serious Eye Damage: Category 1 Skin Sensitization: Category 1 Carcinogenicity: Category 1B Reproductive Toxicity: Category 1A Specific Target Organ: Category 2 Systemic Toxicity - Repeated Exposure
2.2. GHS Label elements	
Hazard pictograms	
Signal Word	**Danger**
Hazard statement	H314 – Causes skin severe skin burns and eye damage. H317 – May cause an allergic skin reaction. H350 – May cause cancer.

Precautionary Statement: Prevention	H360 – May damage fertility or the unborn child. H373 – May cause damage to organs through prolonged or repeated exposure. P201 – Obtain special instructions before use. P202 – Do not handle until all safety precautions have been read and understood P260 – Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. P264 – Wash thoroughly after handling. P270 – Do not eat, drink, or smoke when using this product. P272 – Contaminated work clothing should not be allowed out of the workplace. P273 – Avoid release to the environment. P280 – Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary Statement: Response	P301+P330+P331 – IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P304+P340+P310 – IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. P305+P351+P338+P310 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. P308+P313 – If exposed or concerned: Get medical advice/attention. P333+P313 – If skin irritation or rash occurs: Get medical advice/attention. P362+P364 – Take off all contaminated clothing and wash it before reuse.
Storage	P405 – Store locked up.
Precautionary Statement: Disposal	P501 – Dispose of contents/container to an approved waste disposal plant.
Supplemental Information:	If product is in liquid or paste form, physical or health hazards listed related to dust are not considered significant. However, product may contain substances that could be potential hazards if caused to become airborne due to grinding, sanding or other abrasive processes.

SECTION 3: Composition/Information on Ingredients

3.1. Hazardous Ingredients

Chemical Name	CAS No.	Concentration (%w/w)
Phenol, 4-nonyl-, branched	84852-15-3	>= 10 - < 30%
P-tert-butylphenaol (PTBP)	98-54-4	>= 10 - < 30%
M-phenylenebis - (methylamine)	1477-55-0	>= 5 - < 10%
1,3-Cyclohexanedime-thanamine	2579-20-6	>= 5 - < 10%

Lead sulfochromate yellow	1344-37-2	>= 1 - < 5%
4,4'-isopropylidenediphenol	80-50-7	>= 1 - < 5%
[3-(2,3-epoxypropoxy)]-trimethoxysilane	2530-83-8	>= 1 - < 5%
Salicylic acid	69-72-7	>= 1 - < 5%

SECTION 4: First Aid Measures

4.1. General advice	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
4.2. Eye contact	Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove any contact lenses. Keep eyes wide open while rinsing.
4.3. Skin contact	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
4.4. Ingestion	Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Take victim immediately to hospital.
4.5 Inhalation	Move to fresh air. Consult a physician after significant exposure.

4.6. Most important symptoms and effects, both acute and delayed

Corrosive effects
Sensitizing effects
Carcinogenic effects
Toxic effects for reproduction
Allergic reactions
Dermatitis
See Section 11 for more detailed information on health effects and symptoms.
May cause an allergic skin reaction
Causes serious eye damage
May cause cancer
May damage fertility or the unborn child
May cause damage to organs through prolonged or repeated exposure
Causes severe burns

Notes to physician: Treat symptomatically.

SECTION 5: Firefighting Measures	
5.1. Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
5.2. Specific hazards	None.
5.3. Special protective equipment for fire-fighters	In the event of fire, wear self-contained breathing apparatus.
5.4. Further information	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental Release measures	
6.1. Personal precautions	Use personal protective equipment. Deny access to unprotected persons.
6.2. Environmental precautions	Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
6.3. Methods for cleaning up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust) Keep in suitable, closed containers for disposal.
6.4. Additional advice	None.

SECTION 7: Handling and Storage	
7.1. Advice on safe handling	Do not breathe vapors or spray mist. Avoid exceeding the given occupational exposure limits (see section 8). Do not get in eyes, on skin, or on clothing. For personal protection, see section 8. Persons with a history of skin sensitizations problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Smoking, eating and drinking should be prohibited in the application area. Pregnant women or women of child-bearing age should not be exposed to this product. Follow standard hygiene measures when handling chemical products.
7.2. Conditions for safe storage	Prevent unauthorized access. Store in original container. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Store in accordance with local regulations.
7.3. Technical precautions	Do not store in reactive metal containers.

SECTION 8: Exposure Controls/Personal Protection

8.1. Ingredients with workplace control parameters

Ingredients	CAS No.	Value Type (Form of exposure)	Control parameters/ Permissible concentration	Basis
8.1.1. Exposure Limit Values				
M-phenylenebis - (methylamine)	1477-55-0	(c)	0.1 mg/m3	CA AB OEL
		C	0.1 mg/m3	CA BC OEL
		C	0.1 mg/m3	CA QC OEL
		C	0.1 mg/m3	ACGIH
Lead sulfochromate yellow	1344-37-2	TWA	0.05 mg/m3 (Lead)	CA ON OEL

8.2. Control measures / Personal Protection

8.2.1. Recommended monitoring procedures	To meet the exposure limits for the materials listed above, personal workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
8.2.2. Engineering measures	Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
8.2.3. Hygiene measures	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas. Wash thoroughly after handling.
8.2.4. Respiratory protection	Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. The filter class for the respirator must be suitable for the maximum expected containment concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.
8.2.5. Eye protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. This may include, but is not limited to, safety glasses, goggles and face shields.
8.2.6. Skin protection	Chemical-resistant, impervious gloves complying with an approved standard should

	be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace.
8.2.7. Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. Environmental exposure controls may also include dikes or other liquid containment devices.

SECTION 9: Physical and Chemical Properties

Appearance:	Liquid
Color:	Green
Odor:	Amine-like
Odor threshold:	No data available
pH:	Not determined
Melting/Freezing point:	No data available
Boiling point:	No data available
Flash Point:	Ca. 95°C (203°F) Method: closed cup
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper explosion limit:	No data available
Lower explosion limit:	No data available
Vapor pressure:	19.9983 (15.000mmHg)
Relative vapor density:	No data available
Density:	Ca. 1.080 g/ml 23°C (73°F)
Water Solubility:	Slightly soluble
Partition coefficient:	No data available
Auto ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity, dynamic:	No data available
Viscosity, kinematic	Not determined
Explosive properties	No data available
Molecular weight	No data available

SECTION 10: Stability and Reactivity

10.1 Stability	The product is chemically stable.
10.2. Conditions to avoid	No data available.
10.3. Materials to avoid	No data available.
10.4. Other hazards	Reacts with considerable heat release.
10.5. Hazardous	Stable under recommended storage conditions.

decomposition products	No decomposition if stored and applied as directed.

SECTION 11: Toxicological Information

11.1. Acute health hazard

Product:

Acute dermal toxicity: Acute toxicity estimate: > 2,274 mg/kg
Method: Calculation method

Acute inhalation toxicity: Acute toxicity estimate: > 10 mg/L
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity: Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Ingredients:

Phenol, 4-nonyl-,branched:

Acute dermal toxicity: LD50 Dermal (Rabbit): 3,160 mg/kg

M-phenylenebis (methylamine):

Acute oral toxicity: LD50 Oral (Rat): 930 mg/kg

Acute inhalation toxicity: LC50 (Rat): 1.34 mg/L
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity: LD50 Dermal (Rat): >3,100 mg/kg

1,3-Cyclohexanedimethanamine:

Acute oral toxicity: LD50 Oral (Rat): 700 mg/kg

Acute dermal toxicity: LD50 Dermal (Rat): 1,700 mg/kg

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Acute oral toxicity: LD50 Oral (Rat): > 7,010 mg/kg

Acute inhalation toxicity: LC50 (Rat) > 5.3 mg/L
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity: LD50 Dermal (Rabbit) > 4,248 mg/kg

	Salicylic acid: Acute oral toxicity: LD50 Oral (Rat): 891 mg/kg Acute dermal toxicity: LD50 Dermal (Rat): 2,000 mg/kg
11.2. Skin corrosion or irritation	Causes severe burns.
11.3. Serious eye damage or irritation	Causes serious eye damage.
11.4. Respiratory or skin sensitization	Skin sensitization: May cause an allergic skin reaction. Respiratory sensitization: Not classified based on available information.
11.5. Germ cell mutagenicity	Not classified based on available information.
11.6. Carcinogenicity	May cause cancer. **IARC:** Group 2A: Probably carcinogenic to humans Lead sulfochromate yellow 1344-37-2 **NTP:** Reasonably anticipated to be a human carcinogen Lead sulfochromate yellow 1344-37-2
11.7. Reproductive toxicity	May damage fertility or the unborn child.
11.8. STOT – single exposure	Not classified based on available information.
11.9. STOT – repeated exposure	May cause damage to organs through prolonged or repeated exposure.
11.10. Repeated dose toxicity	No data available.
11.11. Aspiration toxicity	Not classified based on available information.
11.12. Further information	Likely routes of exposure – inhalation; skin and eye contact.

SECTION 12: Ecological Information

12.1. Ecotoxicity	**Ingredients:** **Phenol, 4-nonyl-, branched:** M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10

	M-phenylenebis (methylamine): Toxicity to fish: LC50(Oryzias latipes (Japanese medaka)): > 10 – 100 mg/L Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 10 100 mg/L Exposure time: 48 h **[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:** Toxicity to fish: LC50 (Cyprinus carpio (Carp)): 55 mg/L Exposure time: 96 h
12.2. Persistence and degradability	No data available.
12.3. Bioaccumulative potential	No data available.
12.4. Mobility in soil	No data available.
12.5. Other adverse effects	**Product:** Additional ecological information. Do not empty into drains, dispose of this material and its container in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 13: Disposal Considerations

13.1. Waste disposal	Waste form residues: Disposal of this product, solutions and any by-products should at tall times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport Information

14.1. UN number	UN2735
14.2. Proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S. (1,3-Cyclohexanedimethanamine)
14.3. Transport hazard class International Carriage of Dangerous Good by	

Road/Rail:	ADR/RID:	8
International Maritime Dangerous Goods:	IMDG:	8
International Air Transport Association:	IATA:	8
	Packing Instruction (Cargo):	856
	Packing instruction (Passenger):	852
US Code of Federal Regulations:		
Canadian Transportation of Dangerous Goods:	CFR	8
US Department of Transportation:	TDG:	8
	DOT:	8
14.4. Packing group	III	
14.5. Environmental hazards	Environmental hazards: Yes	Marine pollutant: Yes
	IMDG	
	EmS Code:	F-A S-B

SECTION 15: Regulatory Information

15.1. OSHA Hazards	Irritant, Sensitizer, Corrosive
15.2 to 15.9	Not applicable

15.10. International Chemical Inventory Listing

TSCA (US)	Yes (All components of this product are on US inventory)
DSL (Canada)	Yes (All components of this product are on Canadian inventory)

Canadian Lists: No substances are subject to a Significant New Activity Notification.

15.11. WHMIS Hazard Classification (Canada)

Class D-2B: Material causing other toxic effects (Toxic).
Canadian NPRI: None required.

Canadian PBT Chemical: This product contains the following components on the DSL that are classified as Persistent, Bio-accumulative and/or Toxic (PBT) under CEPA:
Naptha (petroleum), hydro-treated heavy.
Decamethylcyclopentasiloxaneotetrasiloxane.

SECTION 16: Other Information

16.1. NFPA	Not available.

16.2. HMIS®	Not available.
16.3. Text of Risk phrases in Section 3	Not available.
16.4. Text of Hazard statements in Section 3	Not available.
16.5. Notice to Reader	The information provided herein was believed by Denso North America Inc. ("Denso") to be accurate at the time of preparation and prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information, to comply with all laws and procedures applicable to the safe handling and use of the product and to determine the suitability of the product for its intended use. All products supplied by Denso are subject to Denso's terms and conditions of sale. DENSO MAKES NO WARRANTY, EXPRESS OR IMPLIED, DENSO ASSUMES NO LIABILITY ARISNG FROM THE USE OF THIS PRODUCT OR THE MECHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY DENSO, except that the product shall conform to Denso's specifications. DENSO SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES AND SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS. Nothing contained herein constitutes an offer for the sale of any product.
16.6. Key/Legend to abbreviations and acronyms used in the safety data sheet	ACGIH American Conference Government Industrial Hygienists CAS Chemical Abstracts Service DNEL Derived No-Effect Level DSL Canada, Domestic Substances List EC50 Half Maximal Effective Concentration GHS Global Harmonization System IATA International Air Transport Association IMDG International Maritime Code for Dangerous Goods LC50 Median lethal doses (the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals) LD50 Median lethal concentration (concentrations of the chemical in air that kills 50 % of the test animals during the observation period) MARPOL International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 NIOSH National Institute for Occupational Safety & Health OEL Occupational Exposure Limit PBT Persistent, Bio-accumulative and Toxic PNEC Predicted No Effect Concentration

	SVHC Substances of Very High Concern TDG Transportation of Dangerous Goods (Canada) TLV Threshold Limit Value TSCA Toxic Substance Control Act TWA Time Weighted AverageMaterials WHMIS Workplace Hazardous Materials Information System
16.7. Prepared by	Denso EH & S Department
16.8. Telephone	1-416-291-3435 Corporate 1-888-266-8832 Emergency (Toll-free 24 hour), *666 Cellular