Material Safety Data Sheet (MSDS)

SECTION 1 PRODUCT INFORMATION

PRODUCT NAME: PD^3 Basket® assembly – basket portion
PRODUCT TYPE: Wire rod
COMPANY CONTACT: PNA Construction Technologies, Inc.
9 Dunwoody Park, Suite 111
Atlanta, GA 30338
800.542.0214

SECTION 2 GENERAL INFORMATION

TRADE NAME: Wire Rod, Billets
CHEMICAL NAME: Carbon Steel

SECTION 3 HAZARDOUS INGREDIENTS

Alloys & Metallic Coatings	%	TLV (Units)
Base Metal Iron Fe, (Iron Oxide FEO)	98.5	
Alloys (See Below)	0 – 1.0	
Metallic Coatings N/A	0	
Filler Metal Plus Coating or Core Flux N/A	0	

SECTION 4 HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS OR GASES

NAME	%	TLV (Units)
Manganese 3 - .6%	.6	5mg/m3
Chromium 0 - .1%	.1	1mg/m3
Copper 0 - .25%	.25	.1mg/m3
Lead 0 - .25%	.25	05mg/m3
Nickel 0 - .3%	.3	1mg/m3
This product contains the following toxic chemical or chemicals subject to the reporting requirements of Section 313 Title III of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR Part 372. - NICKEL		

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SECTION 5 PHYSICAL DATA	
APPEARANCE AND ODOR	Odorless solid with metallic luster, available as wire rod or billet
BOILING POINT	5430°F
SPECIFIC GRAVITY (H20 = 1)	Approx. 8
VAPOR PRESSURE (mm Hg.)	N/A
VAPOR DENSITY (AIR = 1)	N/A
% VOLATILE, BY VOLUME	N/A
SOLUBILITY IN WATER	Insoluble
EVAPORATION RATE (BUTYL ACETATE = 1)	N/A
OTHER PHYSICAL AND CHEMICAL DATA	None

SECTION 6 HEALTH HAZARDS DATA	
THRESHOLD LIMIT VALUE	15 mg/m3 considered a nuisance dust.
EFFECTS OF OVEREXPOSURE	No toxic effect would be expected from inert solid form, prolonged, repeated exposure to fumes & dusts generated during heating, cutting or welding may cause adverse health effects.
EMERGENCY FIRST AID PROCEDURES	In case of overexposure, remove person to fresh air. Get medical attention if necessary.

SECTION 7 REACTIVITY DATA		
STABILITY	Unstable	
	Stable	X
INCOMPATIBILTIY	Contact with strong acids and caustics may produce H2 gas.	
HAZARDOUS DECOMPOSITION PRODUCT	Metal fumes and noxious gases may be produced during welding, cutting or grinding operations (see section 3 &4)	
HAZARDOUS POLYMERIZATION	May Occur	
	May Not Occur	X

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SECTION 8	SPILL OR LEAK PROCEDURES
Steps to be taken in case material is released or spilled – N/A	
Waste disposal method – comply with Federal, State and local approved disposal methods – follow regulations.	

SECTION 9	SPECIAL PROTECTION INFORMATION
RESPIRATORY PROTECTION	Properly fitted NIOSH approved dust – fume respirator. Local exhaust to maintain TLV
PROTECTIVE GLOVES	For abrasion
EYE PROTECTION	When cutting, welding or grinding, ect…
OTHER PROTECTIVE EQUIPMENT	Protective footwear

SECTION 10	SPECIAL PRECAUTIONS
Precautions to be taken in handling and storing – during welding, cutting or grinding precautions should be taken to control airborne particulates and fumes.	

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Material Safety Data Sheet (MSDS)

SECTION 1 PRODUCT INFORMATION

PRODUCT NAME: PD^3 Basket® tapered plate dowel
PRODUCT TYPE: Hot rolled steel bars
COMPANY CONTACT: PNA Construction Technologies, Inc.
9 Dunwoody Park, Suite 111
Atlanta, GA 30338
800.542.0214

SECTION 2 GENERAL INFORMATION

IDENTITY: Hot Rolled Bars
FAMILY: Inorganic Compounds

SECTION 3 HAZARDOUS CONSTITUENTS

Constituent	OSHA PEL (mg/M3)	ACGIH TLV (mg/M3)	% Range	CAS #
Aluminum:				
Fume	5.0	5.0	.001-.100	7429-90-5
As dust	5.0	---		
Carbon:				
Not Listed	---	---	.01-1.10	7440-44-0
Chromium:	0.5	0.5	.05-.90	7440-47-3
Soluble Cr salts	1.0	0.5		
Copper (metal):				
As dust	1.0	1.0	.10-1.0	7440-50-8
As Fume	0.1	0.2		
Iron:				
Iron Oxide Fume	10.0	---	98-99	7439-89-6
Molybdenum:				
Fume	0.1	0.2	.01-.15	7439-98-7
Nickel (metal):	1.0	1.0	.05-.75	7440-02-0
Soluble Ni compounds	1.0	1.0		
Manganese:				
Fume	1.0	1.0	.25-1.65	7439-96-5
Phosphorus (yellow)	0.1	---	.06 max	7723-14-0
Silicon:				
Dust	15.0	---	.08-.50	7440-21-3
Sulfur:				
Sulfur Dioxide	13.0	5.0	.001-.08	7446-09-5

SECTION 4 PHYSICAL AND CHEMICAL CHARACTERISTICS

APPEARANCE AND ODOR	Dark gray, odorless, metal.
BOILING POINT	±5000°F

MELTING POINT	Approximately 2500°F
pH	N/A
SPECIFIC GRAVITY	(H20 = 1) 2-8.2 (mm Hg)
DENSITY (AT 15.6°C)	N/A
VAPOR PRESSURE	N/A
VAPOR DENSITY	N/A
% VOLATILE, BY VOLUME	N/A
SOLUBILITY IN WATER	Insoluble
EVAPORATION RATE (BUTYL ACETATE = 1)	N/A
OTHER PHYSICAL AND CHEMICAL DATA	None

SECTION 5 FIRE AND EXPLOSION DATA		
FLASH POINT (°C) N/A	AUTOIGNITION TEMPERATURE N/A	
FLAMMABILITY LIMIT IN AIR (% BY VOL)	Lower	N/A
	Upper	N/A
EXTINGUISHING MEDIA	N/A	
SPECIAL FIRE FIGHTING PROCEDURES	N/A	
UNUSUAL FIRE AND EXPLOSION HAZARDS	N/A	

SECTION 6 STABILITY AND REACTIVITY	
STABILITY	Stable
CONDITIONS TO AVOID	N/A
HAZARDOUS POLYMERIZATION	N/A
INCOMPATIBILITY (MATERIALS TO AVOID)	Strong acids
HAZARDOUS DECOMPITION PRODUCTS	Hydrogen gas

Material Safety Data Sheet (MSDS)

SECTION 7 HAZARDS IDENTIFICATION	
EFFECTS OF OVEREXPOSURE	No toxic effects would be expected from inert solid form. Inhalation of metal dust and fumes may result from further processing of the material by the user, particularly during welding, burning, cutting, grinding and machining activities
ACUTE	Short-term intensive exposure to dust may result in irritation to eyes, mucous membranes and respiratory tract. Steel recently produced may be extremely hot.
CHRONIC	Sever pneumonitis, pulmonary disease
CARCINOGENIC	NTP: nickel, chromium IARC: nickel, chromium OSHA: none
SIGNS AND SYMPTOMS OF EXPOSURE	Nausea, tightness of chest, fever, irritation of eyes, nose, throat and skin.
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE	Chronic lung disease, allergic conditions.
EMERGENCY AND FIRST AID PROCEDURES	Standard first aid procedures – remove to fresh air.

SECTION 8 PRECAUTIONS FOR SAFE HANDLING AND USE	
STEPS TO BE TAKEN IN CASE OF RELEASE OR SPILL	N/A
WASTE DISPOSAL METHOD	Material should be reclaimed for re-use; follow local, State and Federal solid waste disposal requirements.

SECTION 9 CONTROL MEASURES	
RESPIRATORY PROTECTION	Dust/fume respirator.
LOCAL EXHAUST	As required to meet PEL.
PROTECTIVE GLOVES	As needed based on operations
EYE PROTECTION	As needed
OTHER PROTECTIVE CLOTHING OR EQUIPMENT	May be needed for grinding. Heat resistant face protection, clothing, boots and/or gloves may be necessary.

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Material Safety Data Sheet (MSDS)

SECTION 1 PRODUCT INFORMATION

PRODUCT NAME:	PNA Debonding Agent
TRADE NAME:	Tectyl® 506
PRODUCT TYPE:	Solvent-based rust preventative
MATERIAL USAGE:	Corrosion Preventative Compound
COMPANY CONTACT:	PNA Construction Technologies, Inc. Nine Dunwoody Park, Suite 111 Atlanta, GA 30338 800.542.0214

HMIS HAZARD RATING

Health – 1 Fire – 2 Reactivity – 0 Personal Protection – D

WHMIS Class B, Div. 2 & Class 0. 2A

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	% (by weight)
CALCIUM SALT OF OXIDIZED PETROLATUM	68425-34-2	50-60
ALIPHATIC HYDROCARBONS (STODDARD TYPE)	8052-41-2	40-50

SECTION 3 HAZARDS IDENTIFICATION / POTENTIAL HEALTH EFFECTS OVERVIEW

Potential Health Effects

Eye:	Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.
Skin:	May cause mild skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of skin, and burns.
Swallowing:	Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can enter the lungs during swallowing or vomiting and cause lung inflammation and /or damage.
Inhalation:	Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful.
Symptoms of Exposure:	Stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, headache, unconsciousness).
Target Organ Effects:	Overexposure to this material (or its components) has been suggested as a cause of the following effects in human, and may aggravate pre-existing disorders of these organs: Central nervous system effects.
Developmental Information:	No data
Cancer Information:	No data
Other Health Effects:	No data
Primary Route(s) of Entry:	Inhalation, Skin contact.

SECTION 4 FIRST AID MEASURES

Eyes:	If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention
Skin:	Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.
Inhalation:	If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.
Swallowing:	Do not induce vomiting. This material is an aspiration hazard. If individual is drowsy or unconscious, place on left side with the head down. Seek medical attention. If possible, do not leave individual unattended.

Note To Physician: No data

SECTION 5 FIRE FIGHTING MEASURES

Flash Point:	106°F (41.1°C) PMCC
Explosive Limit (for components):	Lower 1.0% Upper 6.0%
Autoignition Temperature:	No Data
Hazardous Products of Combustion:	May form, carbon dioxide and carbon monoxide, sulfurs compounds, various hydrocarbons.
Fire and Explosion Hazards:	Vapors are heavier than air and may travel along the ground or be moved by ventilation and ignited by heat, pilot lights, other flames and ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.
Extinguishing Media:	Regular foam, carbon dioxide, dry chemical.
Fire Fighting Instruction:	Water may be used to extinguish fire by cooling, and diluting liquid with water. Wear a self-contained breathing apparatus with a full-face piece operated in the positive pressure demand mode with appropriate turnout gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS.
NFPA Rating:	Health – 1 Flammability – 2 Reactivity - 0

SECTION 6 ACCIDENTAL RELEASE MEASURES

Small Spill:	Eliminate all sources of ignition such as flares, flames (including pilot lights), and electrical sparks. Absorb liquid on vermiculite, floor absorbent or other absorbent material.
Large Spill:	Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Person not wearing protective equipment should be excluded from area of spill until clean up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other to containers for disposal.

SECTION 7 HANDLING AND STORAGE

Handling: Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. All five-gallon pails and larger metal containers including tank cars and tank trucks should be grounded and/or bonded when material is transferred.

Storage: Not applicable.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye Protection: Chemical splash goggles in compliance with OSHA regulations are advised. However, OSHA regulations also permit other type safety glasses. Consult your safety representative.

Skin Protection: Wear resistant gloves such as: neoprene. To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Respiratory Protections: If workplace exposure limit(s) of product or any component is exceeded (Se Exposure Guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSH.A respirators (negative pressure type) under specified conditions (consult your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

Engineering Controls: Provide sufficient mechanical (general and /or local exhaust) ventilation to maintain exposure below TLV(s).

Exposure Guidelines: <u>Component</u>
CALCIUM SALT OF OXIZED PETROLATUM (68425-34-3)
No exposure limits established

ALPIHATIC HYDROCARBONS (STODDARD TYPE) (8052-41-3)
OSHA VPEL 100ppm – TWA
ACGIHTLV 100 PPM – TWA

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (for component):	315°F (157.2°C)
Vapor Pressure (for component):	2mmHg
Specific Vapor Density:	>1 @ AIR=1
Specific Gravity:	.89 @ 77°F
Liquid Density:	7.31 lbs/gal @ 77°F .89Kg/l @ 25°C
Percent Volatiles (Including Water):	50-54
Volatile Organic Compounds (VOC) (Calculated):	3.48 lbs/gal
Evaporation Rate:	SLOWER THAN ETHYL ETHEL
Appearance:	TRANSLUCENT
State:	LIQUID
Physical Form:	No Data
Color:	AMBER
Odor:	No Data
pH:	Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Hazardous Polymerization:	Product will not undergo hazardous polymerization.
Hazardous Decomposition:	May form: Carbon dioxide and carbon monoxide, sulfur compounds, various hydrocarbons.
Chemical Stability:	Stable.
Incompatibility:	Avoid contact with: strong oxidizing agents.

SECTION 11 DISPOSAL CONSIDERATION

Waste Management Information: Dispose of in accordance with all applicable local, state, and federal regulations.

SECTION 12 TRANSPORTATION INFORMATION

DOT Information – 49 CFR 127.101

DOT Description:	COMBUSTIBLE LIQUID, N.O.S., NA 1993,111
Container/Mode:	DRUMS/SURFACE – NO EXEMPTIONS
NOS Component:	ALIPHATIC HYDROCARBONS (STODDARD TYPE)

RQ (Reportable Quantity) – 49 CFR 172.101

Not Applicable

SECTION 13 REGULATORY INFORMATION

Federal Regulations

TSCA (Toxic Substances Control Act) Status:	TSCA (UNITED STATES) The intentional ingredients of this product are listed.
CERCLA RQ – 40 CFR 302.4:	None
SARA 302 Components – 40 CFR 355 Appendix A:	None
Section 311/312 Components – 40 CFR 372.65:	None
SARA 313 Components – 40 CFR 372.65:	None

International Regulations:	Inventory Status
ACOIN (AUSTRALIA)	The intentional ingredients of this product are listed.
DSL (CANADA)	The intentional ingredients of this product are listed.
ECL (SOUTH KOREA)	The intentional ingredients of this product are listed.
EINECS (EUROPE)	The intentional ingredients of this product are listed.

State and Local Regulations

California Propositions 65:	None
New Jersey RTK Label Information:	STODDARD SOLVENT 8052-41-3
Pennsylvania RTK Label Information:	STODDARD SOLVENT 8052-41-3

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