

CAST IRON PIPE & FITTINGS


**CHARLOTTE PIPE & FOUNDRY
COMPANY**

CHARLOTTE


PIPE AND FOUNDRY COMPANY

Cast Iron Soil Pipe Suggested Short Form Specification

Hubless Cast Iron Soil Pipe and Fittings:

Hubless Cast Iron pipe and fittings shall be manufactured from gray cast iron and shall conform to ASTM A 888 and CISPI Standard 301. All pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute  and listed by NSF[®] International. Hubless Couplings shall conform to CISPI Standard 310 and be certified by NSF[®] International. Heavy Duty couplings shall conform to ASTM C 1540 and shall be used if indicated. Gaskets shall conform to ASTM C 564. All pipe and fittings to be produced by a single manufacturer and are to be installed in accordance with manufacturer's recommendations and applicable code requirements. Couplings shall be installed in accordance with the manufacturer's band tightening sequence and torque recommendations. Tighten bands with a properly calibrated torque limiting device. The system shall be hydrostatically tested after installation to 10 ft. of head (4.3 psi maximum). **WARNING!** Never test with or transport/store compressed air or gas in Cast Iron pipe or fittings. Doing so can result in explosive failures and cause severe injury or death.

Hub and Spigot Cast Iron Soil Pipe and Fittings:

Hub and Spigot Cast Iron pipe and fittings shall be manufactured from gray cast iron and shall conform to ASTM A 74. All pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute  and listed by NSF[®] International.

Pipe and fittings to be [pick one or both]:

- Service (SV) or
- Extra Heavy (XH)

Joints can be made using a compression gasket manufactured from an elastomer meeting the requirements of ASTM C 564 or lead and oakum. All pipe and fittings to be produced by a single manufacturer and are to be installed in accordance with manufacturer's recommendations and applicable code requirements. The system shall be hydrostatically tested after installation to 10 ft. of head (4.3 psi maximum). **WARNING!** Never test with or transport/store compressed air or gas in Cast Iron pipe or fittings. Doing so can result in explosive failures and cause severe injury or death.

SPEC-SF-CI (611)

CHARLOTTE

PIPE AND FOUNDRY COMPANY

This is to certify that all Cast Iron Pipe and Fittings manufactured by Charlotte Pipe and Foundry Company are manufactured in the United States and conform to the following standards:

SERVICE HUB AND SPIGOT PIPE AND FITTINGS

All cast iron pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute (CISPI)

ASTM A 74

ANSI A 112.5.1

Listed by NSF® International

ISO 9001:2008

EXTRA HEAVY HUB AND SPIGOT PIPE AND FITTINGS

All cast iron pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute (CISPI)

ASTM A 74

ANSI A 112.5.1

Listed by NSF® International

ISO 9001:2008

NO-HUB PIPE AND FITTINGS

All cast iron pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute (CISPI)

CISPI Standard 301

ASTM A 888

Listed by NSF® International

ISO 9001:2008

NO-HUB COUPLINGS

CISPI Standard 310

ASTM C 1277

Certified by NSF® International

NO-HUB HEAVY DUTY COUPLINGS

ASTM C 1540

COMPRESSION GASKETS

ASTM C 564

CISPI HSN 85

Very truly yours,

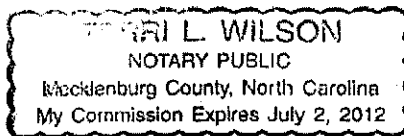


Hooper Hardison, Executive Vice President



Notary Public

My commission expires July 02, 2012



LC-CI (611)

06/07/2011



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 Meets the Requirements of OSHA Standard 29 CFR 1910.1200 Hazard Communication and EPA Supplier
 Notification Requirements under Section 313 of Emergency Planning and Community Right-to-Know Act.

MATERIAL SAFETY DATA SHEET (MSDS)

GRAY IRON

MSDS SC-000-041 Rev. 10

DATE ISSUED: 03/07

PART I What is the material and what do I need to know in an emergency?

SECTION 1 — PRODUCT IDENTIFICATION & COMPANY INFORMATION

PRODUCT NAME: GRAY IRON	
OTHER DESIGNATIONS:	PRODUCT IDENTIFICATION NUMBER(S)
MANUFACTURER'S NAME Charlotte Pipe and Foundry Company	STREET ADDRESS 2109 Randolph Rd
EMERGENCY TELEPHONE NO. 704-332-2647	MAILING ADDRESS PO Box 35430
TELEPHONE NO. 704-372-5030	CITY, STATE, ZIP CODE Charlotte, NC 28235
FAX NO. 800-553-1605	E-MAIL ADDRESS/WEB SITE: www.charlottepipe.com

SECTION 2 – HAZARD IDENTIFICATION

OVERVIEW:

There are no health hazards from these castings in solid form. The solid casting is not flammable.

Dust and fume from processing can cause irritation of eyes, skin and respiratory tract; lung disease and other systemic effects.

- Dust or fumes generated by machining, grinding, or welding of the casting may produce airborne contaminants, primarily chromium, manganese, nickel and iron. Also, see the MSDS for the welding material being used.
- Grinding castings that have not been cleaned or that contain embedded sand may generate significant amounts of dust containing free silica.
- Other metals in the alloy that are present in small amounts in the casting should not present a hazard if chromium, manganese, nickel and iron dust and fume are adequately controlled.

POTENTIAL HEALTH EFFECTS:

EYES: Grinding or machining of castings may generate flying metal particles that may cause eye irritation or injury.

SKIN: Dermatitis is possible from skin contact with nickel or chromium.

INGESTION: Ingestion of particulate can occur during activities such as eating, drinking and smoking, etc. Not normally applicable.

INHALATION:

Prolonged or repeated exposure to dust or fumes from these castings may cause the following health effects:

Respiratory irritation

Overexposure to iron oxide fume over a long time can cause siderosis, sometimes called "iron pigmentation" of the lung. It can be seen on a chest x-ray but causes little or no disability.

Central nervous system effects such as sleepiness, weakness in the legs, spastic gait and emotional disturbances can occur with prolonged overexposure to manganese.

Inhalation of hexavalent chromium may cause lung or nasal cancer.

Note: Prolonged breathing of excessive amounts of silica dust, which may be on or embedded in the surface of castings, can cause silicosis or other health effects including lung cancer.

ENVIRONMENTAL EFFECTS:

No known significant environmental effects from a solid casting.

SECTION 3 — COMPOSITION / INFORMATION ON INGREDIENTS

Section 3A—Information on Ingredients

MATERIAL	Wt %	CAS NUMBER	ACGIH TLV mg/m ³	OSHA PEL mg/m ³
Carbon (C)	2.5-4.0	7440-44-0	N/E	N/E
Chromium (Cr)	0.01-0.9	7440-47-3	0.5	1
Iron (Fe)	86.3-96.2	7439-89-6	N/E	N/E
Manganese (Mn)	0.2-1.1	7439-96-5	0.2	5 (Ceiling)
Nickel (Ni)	0.01-1.5	7440-02-0	1.5	1.0
Silicon (Si)	1.0-3.5	7440-21-3		
Total dust			N/E	15
Respirable dust			N/E	5

Section 3B—Potential Byproducts of Welding, Cutting or Other Further Processing

Chromium Compounds (as Cr)				
Chromium (II) inorganic compounds		various	N/E	0.5
Chromium (III) inorganic compounds		various	0.5	0.5
Chromium (VI) inorganic compounds, certain water insoluble		various	0.01	0.005
Chromium (VI) inorganic compounds, water soluble		various	0.05	0.005
Chromium (VI) all forms and compounds		various	N/E	0.005
Iron Compounds				
Iron oxide (Fe ₂ O ₃) fume		1309-37-1	N/E	10
Iron oxide (Fe ₂ O ₃) respirable		1309-37-1	5	N/E
Nickel Compounds (as Ni)				
Insoluble inorganic compounds		various	0.2	1
Soluble inorganic compounds		various	0.1 ^(I)	0.5
Nickel oxide		1313-99-1	0.2 ^(I)	1

TERMS

N/E = None Established

TLV = Threshold Limit Value/American Conference of Industrial Hygienists (ACGIH) 8-hr time weighted average

PEL = Permissible Exposure Limit / OSHA 8-hr time weighted average

mg/m³ = milligrams per cubic meter

µg/m³ = micrograms per cubic meter

(I) = Inhalable fraction

Section 3C—Carcinogen Classification of Ingredients/ Potential Byproducts

INGREDIENT/BYPRODUCT	OSHA	NTP	IARC	ACGIH	EPA	TARGET ORGAN
Carbon	NL	NL	NL	NL	NL	--
Chromium (metal)	NL	NL	3	A4	NL	Lung, Nasal
Chromium II, inorganic compounds	NL	NL	NL	NL	NL	
Chromium III, inorganic compounds	NL	NL	3	A4	D	
Chromium VI, (hexavalent)	Y	K	1	A1	NL	
Iron	NL	NL	3	A4	NL	Lung
Manganese	NL	NL	NL	NL	D	Central Nervous System
Nickel (metal)	NL	R	2B	A5	NL	Lung, Nasal
Nickel, insoluble compounds	NL	K	NL	A1	NL	
Nickel, soluble compounds	NL	K	NL	A4	NL	
Nickel oxide	NL	K	1	A1	NL	

Silicon	NL	NL	NL	NL	NL	--
OSHA – Occupational Safety & Health Administration Y = Listed as a Human Carcinogen NTP – National Toxicology Program K = Know to be a Human Carcinogen R = Reasonably Anticipated to be a Human Carcinogen (RAHC) IARC – International Agency for Research on Cancer 1 = Carcinogen to Humans 2A = Probably Carcinogenic to Humans 2B = Possibly Carcinogenic to Humans 3 = Unclassifiable as to Carcinogenicity in Humans 4 = Probably not Carcinogenic to Humans NL = Not Listed			ACGIH – American Conference of Governmental Industrial Hygienists A1 = Confirmed Human Carcinogen A2 = Suspected Human Carcinogen A3 = Confirmed Animal Carcinogen A4 = Not Classifiable as a Human Carcinogen A5 = Not Suspected as a Human Carcinogen EPA – U.S. Environmental Protection Agency A = Human Carcinogen K = Known Human Carcinogen D = Not Classified as to Human Carcinogenicity. No Data Available B1 = Probable Human Carcinogen. Sufficient Evidence from Epidemiology Studies L = Likely to Produce Cancer in Humans B2 = Probable Human Carcinogen. Sufficient Evidence from Animal Studies			

PART II What should I do if a hazardous situation occurs?

SECTION 4 — FIRST AID MEASURES	
EYES:	Flush eyes with plenty of water or eye wash solution. Embedded metal particles should be removed by a trained individual such as a nurse or physician.
SKIN:	If a rash develops, seek medical attention.
INGESTION:	Not normally applicable.
INHALATION:	If problems develop move to fresh air and seek medical attention.
SECTION 5 — FIRE & EXPLOSION DATA	
FLAMMABLE PROPERTIES:	Castings in a solid form will not burn or explode. However, finely divided metal dust may burn or explode.
EXTINGUISHING MEDIA :	Use fire extinguishing media that are appropriate for fire in surrounding area.
PROTECTION OF FIREFIGHTERS:	Firefighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate for the surrounding fire.
SECTION 6 — ACCIDENTAL RELEASE MEASURES	
Accidental release measures do not apply to solid castings. Dust collected from machining, welding, etc. may be classified as a hazardous waste. Consult federal, state and local regulations.	

PART III How can I prevent hazardous situations from occurring?

SECTION 7 — HANDLING & STORAGE	
RECOMMENDED STORAGE:	No special storage requirements needed.
PROCEDURES FOR HANDLING:	For castings with sharp edges, wear appropriate work gloves. When handling heavy castings wear appropriate foot protection.
SECTION 8 — EXPOSURE CONTROLS & PERSONAL PROTECTION	
ENGINEERING CONTROLS:	<p>No specific controls are needed when the casting is in a solid state. If welding, grinding or machining, provide sufficient general ventilation and/or local exhaust to maintain concentrations below PEL's and TLV's. Refer to Section 3 for exposure guidelines.</p> <p>If ventilation is not adequate, wear a NIOSH approved particulate respirator.</p> <p>If work is to be done in a confined space use appropriate confined space program procedures (OSHA standard 29 CFR 1910.146).</p> <p>Grinding castings that have not been cleaned or that contain embedded sand may generate significant amounts of dust containing free silica, which can cause silicosis. Good local ventilation is frequently required to prevent over-exposure in this situation. If good ventilation is not available, use a NIOSH approved particulate respirator.</p> <p>Other metals in the alloy that are present in small amounts should not present a hazard if chromium, iron, manganese and nickel dust and fume are adequately controlled.</p>

PERSONAL PROTECTION:**Gloves:**

Work gloves are advisable for handling castings.

Eye:

Safety glasses with side shields and/or face shield for particles (grinding). Welding goggles or welding helmet for cutting or welding.

Respiratory:

Wear a NIOSH approved respirator for dusts, fumes or welding gases if concentrations exceed the PEL or TLV.

Footwear:

Foot protection must be worn to protect against foot injury when heavy castings are handled.

Clothing:

Wear appropriate protective clothing if arc-air gouging or cutting or welding castings.

Other:

If noise is at or above 85dBA, hearing protection should be worn. Refer to OSHA Standard 29 CFR 1910.95.

SECTION 9 — PHYSICAL & CHEMICAL PROPERTIES**APPEARANCE /PHYSICAL STATE:**

Solid, silver gray in color.

ODOR:

None

VAPOR DENSITY:

Not applicable

MELTING POINT:

Approximately 1300C (2350F)

SPECIFIC GRAVITY:

7.86 for iron

BOILING POINT:

2750C (5000F) for Iron

VAPOR PRESSURE:

Not applicable

FLASH POINT:

Not applicable for solid castings

EVAPORATION RATE:

Not applicable

FLAMMABILITY:

Not flammable

SOLUBILITY IN WATER:

Insoluble

UPPER AND LOWER FLAMMABILITY LIMITS:

Not applicable for solid castings

pH:

Not applicable

AUTO IGNITION TEMPERATURE:

Not applicable

PERCENT VOLATILE BY VOLUME:

Not applicable

DECOMPOSITION TEMPERATURE:

Not applicable

PARTITION COEFFICIENT:

Not applicable

SECTION 10 — STABILITY & REACTIVITY**CHEMICALLY STABLE?**

Yes

CONDITIONS TO AVOID:

None

INCOMPATIBILITY:

Metal dust can burn or explode and must be protected from ignition sources such as grinding sparks, etc. Under some conditions, metal dust is incompatible with some oxidizing conditions and may be incompatible with oxidizers, acids and water and may ignite or explode.

CONDITIONS OF REACTIVITY:

None

IMPACT/SHOCK SENSITIVITY:

Not applicable

HAZARDOUS DECOMPOSITION PRODUCTS:

None

HAZARDOUS POLYMERIZATION:

Not applicable

PART IV *Is there any other useful information about this material?***SECTION 11 — TOXICOLOGICAL INFORMATION**

No toxicological information is available for solid castings. There are extensive toxicological data available on the various components of this material. An adequate representation of all these data is beyond the scope of this document.

SECTION 12 — ECOLOGICAL INFORMATION

No ecological information is available for solid castings. There are extensive ecological data available on the various components of this material. An adequate representation of all these data is beyond the scope of this document.

SECTION 13 — DISPOSAL CONSIDERATIONS

Recover or recycle if possible. Dispose of according to federal, state and local regulations.

SECTION 14 — TRANSPORTATION INFORMATION

USA DEPARTMENT OF TRANSPORTATION (DOT) - HM181:
Not Regulated

CANADIAN TRANSPORT DANGEROUS GOODS (TDG):
Not regulated

SHIPPING NAME:
Not regulated

HAZARD CLASS:
Not regulated

UN (United Nations) # / NA (North American) #:
Not regulated

LABEL(S) REQUIRED?
No

PACKING GROUP:
Not regulated

INTERNATIONAL TRANSPORTATION REGULATIONS:
Not applicable

SPECIAL SHIPPING INFORMATION:
Not applicable

SECTION 15 — REGULATORY INFORMATION

USA - OSHA (Hazard Communication Standard):

Reference 29 CFR 1910.1200 and 1910.1000. A finished casting is an article as defined in the OSHA Hazard Communication Standard 29CFR 1910.1200 (c). Dust or fumes generated by cleaning, machining, grinding, or welding of the casting may produce airborne contaminants, such as chromium, iron, manganese, nickel and silica. For chromium references see 29 CFR 1910.1026.

USA - EPA (Toxic Substances Control Act – TSCA):

All components of these products are on the TSCA inventory list or are excluded from listing.

USA - EPA (SARA Title III)

The following components, **Chromium, Manganese and Nickel**, make this product subject to reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 72. Quantity threshold amounts are 25,000 pounds for manufacturing, importing or processing and 10,000 pounds for otherwise used.

CANADA - WHMIS (Workplace Hazardous Materials Information System):

This MSDS has been prepared according to the hazard criteria of the Controlled Product Regulations (CPR) and the MSDS contains the information required by the CPR.

CANADIAN DSL (Domestic Substance List) Inventory Status

All components of these products are on the DSL inventory.

CEPA (Canadian Environmental Protection Act):

The components of these products are not on the CEPA Priorities Substances Lists

EINECS No. (European Inventory of Commercial Chemical Substances):

All components of these products are on the EINECS list.

RoHS (Restriction of Certain Hazardous Substances) Compliance

Castings comply with RoHS

CALIFORNIA PROPOSITION 65 Compliance

WARNING: This product contains or produces chemicals known to the State of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code 25248.5 et seq.)

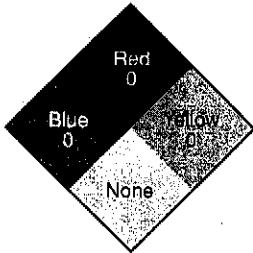
U.S. STATE REGULATORY INFORMATION

Some of the components listed in Section 3 may be covered under specific state regulations.

SECTION 16 — OTHER INFORMATION

National Fire Protection Association (NFPA) RATINGS
For Castings in Solid Form:

Health: 0 Fire: 0 Reactivity: 0 Specific Hazard: None



Health Hazard: (Blue)

- 0—(material that on exposure under fire conditions would offer no hazard; beyond that of ordinary combustible materials);
- 1—(materials that on exposure under fire conditions could cause irritation or minor residual injury);
- 2—(materials that on intense or continued exposure under fire conditions could cause temporary incapacitation or possible residual injury);
- 3—(materials that can on short exposure could cause serious temporary or residual injury);
- 4—(materials that under very short exposure causes death or major residual injury).

Flammability Hazard: (Red)

- 0—(minimal hazard);
- 1—(materials that require substantial pre-heating before burning);
- 2—(combustible liquid or solids; liquids with a flash point of 38-93°C [100-200°F]);
- 3—(Class IB and IC flammable liquids with flash points below 38°C [100°F]);
- 4—(Class IA flammable liquids with flash points below 23°C [73°F] and boiling points below 38°C [100°F]).

Reactivity Hazard: (Yellow)

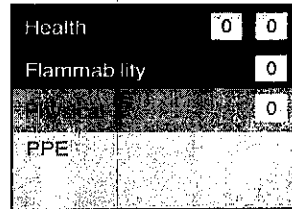
- 0—(normally stable);
- 1—(material that can become unstable at elevated temperatures or which can react slightly with water);
- 2—(materials that are unstable but do not detonate or which can react violently with water);
- 3—(materials that can detonate when initiated or which can react explosively with water);
- 4—(materials that can detonate at normal temperatures or pressures).

Specific Hazard: (White)

- Oxidizer OXY
- Acid ACID
- Alkali ALK
- Corrosive COR
- Use No Water
- Radioactive
- Polymerizes P

Hazardous Materials Information System (HMIS) RATINGS
For Castings in Solid Form:

Health: 0 Flammability: 0 Physical Hazards: 0



Health Hazard: (Blue)

- 0—(no significant risk to health);
- 1—(irritation or minor reversible injury possible);
- 2—(temporary or minor injury may occur);
- 3—(major injury likely unless prompt action is taken and medical treatment is given);
- 4—(life-threatening, major or permanent damage may result from single or repeated overexposures);
- *—(chronic health hazard)

Flammability: (Red)

- 0—(materials that will not burn);
- 1—(materials that must be preheated before ignition will occur);
- 2—(materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur);
- 3—(materials capable of ignition under almost all normal temperature conditions);
- 4—(flammable gases, or very volatile flammable liquids with flash points below 73°F and boiling points below 100°F. Materials may ignite spontaneously with air. (Class IA)).

Physical Hazards: (Orange)

- 0—(materials that are normally stable, even under fire conditions and will not react with water, polymerize, decompose, condense, or self-react. Non-explosives);
- 1—(materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors);
- 2—(materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air);
- 3—(materials that may form explosive mixtures with water and are capable of detonation or explosive reaction in the presence of a strong initiating source. Materials may polymerize, decompose, self-react, or undergo other chemical change at normal temperature and pressure with moderate risk of explosion);
- 4—(materials that are readily capable of explosive water reaction, detonation or explosive decomposition, polymerization, or self-reaction at normal temperature and pressure).

LABEL INFORMATION: The following hazard information is required for labels under OSHA Standard 29 CFR 1910.1200. Other label information may be added.

GRAY IRON

—CAUTION—

Grinding, welding or arc gouging of this casting creates dust or fumes containing substances listed below with corresponding possible health effects after prolonged or repeated overexposure.

Carbon: Respiratory and skin irritation

Chromium, hexavalent: Dermatitis, lung and nasal cancer

Iron: Overexposure to iron oxide fume over a long time can cause siderosis, sometimes called "iron pigmentation" of the lung. It can be seen on a chest x-ray but causes little or no disability.

Manganese: Central nervous system impairment

Nickel: Dermatitis, lung and nasal cancer

Silicon: Skin, eye and nose irritation

Wear eye protection

Wear a NIOSH approved particulate respirator if dust or fume concentrations are excessive.

NOTE:

This data is offered in good faith as typical values and not as a product specification. No warranty either expressed or implied is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review the recommendations in specific context of the intended use and determine if they are appropriate.

MSDS SHEET PREPARED BY:

American Foundry Society, Inc.
Occupational Safety & Health Committee (10-Q)

DATE:

03/07

MATERIAL SAFETY DATA SHEET
REV. DATE 5/25/10

QUICK IDENTIFIER: WATER-BASE COATING
MANUFACTURER'S NAME: PROFESSIONAL COATING TECHNOLOGIES, INC. (P.C.T.)
ADDRESS: 1001 MT. LEBANON RD.
CEDAR HILL, TX 75104
EMERGENCY 24 HR. TELEPHONE NUMBER: (972) 291-7474
OTHER INFORMATION CALLS: (972) 291-7474

SECTION 1 - IDENTIFY

TRADE NAME AND SYNONYMS: MPFC-D
C.A.S. NUMBER: NONE, MIXTURE
CHEMICAL NAME: EMULSIFIED ASPHALT
CHEMICAL FAMILY: PETROLEUM HYDROCARBON
FORMULA: VARIABLE MIXTURE

SECTION 2 - INGREDIENTS

PRINCIPAL HAZARDOUS COMPONENTS (CHEMICAL & COMMON NAMES)	%	THRESHOLD LIMIT VALUE (UNITS)
NONE KNOWN		

OTHER INGREDIENTS	%	THRESHOLD LIMIT VALUE (UNITS)
ASPHALT, PETROLEUM 008052-42-4	55-65	5.00 mg/m ³
PETROLEUM DISTILLATE	LESS THAN	0%

SECTION 3 - PHYSICAL & CHEMICAL CHARACTERISTICS

BOILING POINT: 212 DEG. F. SPECIFIC GRAVITY (H20-1.00): 0.97 - 1.02
VAPOR PRESSURE (mmHg): N/D VAPOR DENSITY (AIR @ 1): > 1
PERCENT VOLATILE BY VOLUME: 40 - 50 EVAP. RATE (H20 = 1.00): 1
APPEARANCE AND ODOR: LOW VISCOSITY, SMOOTH BROWN LIQUID, SLIGHT PETROLEUM ODOR
CAS # 8052-42-4

SECTION 4 - FIRE AND EXPLOSION

FLASH POINT: N/A IN EMULSION STATE AUTO IGNITION TEMP: N/A
FLAMMABLE LIMITS IN AIR % BY VOLUME: LOWER: N/A UPPER: N/A
EXTINGUISHER MEDIA: NON-FLAMMABLE IN EMULSION STATE
NOTE IN ASPHALT STATE: SMALL FIRES USE DRY CHEMICAL, CO2, HALON, WATER SPRAY OR STANDARD FOAM. LARGE FIRES USE WATER SPRAY, FOG OR STANDARD FOAM. (1987 EMERGENCY RESPONSE GUIDEBOOK, D.O.T. P5800.4 GUIDE NO. 27)
SPECIAL FIRE FIGHTING PROCEDURES: NON-FLAMMABLE IN EMULSION STATE.
NOTE IN ASPHALT STATE: MOVE VESSEL FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. COOL CONTAINERS THAT ARE EXPOSED TO FLAMES WITH WATER FROM THE SIDE UNTIL WELL AFTER THE FIRE IS OUT. STAY AWAY FROM ENDS OF TANK. FOR MASSIVE FIRE IN CARGO AREA, USE UNMANNED HOSE HOLDER OR MONITOR NOZZLES; IF THIS IS IMPOSSIBLE, WITHDRAW FROM AREA AND LET FIRE BURN. WITHDRAW IMMEDIATELY IN CASE OF RISING SOUND FROM VENTING SAFETY DEVICE OR ANY DISCOLORATION OF TANK DUE TO FIRE. (1987 EMERGENCY RESPONSE GUIDEBOOK, D.O.T. P5800.4 GUIDE NO. 27)

SECTION 5 - PHYSICAL HAZARDS

MATERIAL IS: STABLE
CONDITIONS TO AVOID: NONE
INCOMPATIBILITY (MATERIALS TO AVOID): NONE
HAZARDOUS POLYMERIZATION WILL: NOT OCCUR

SECTION 6 - HEALTH HAZARDS

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN.
ASPHALT EMULSIONS HAVE NOT BEEN INVESTIGATED AS POSSIBLE CARCINOGENS. PETROLEUM ASPHALT WOULD BE AS FOLLOWS:
NAT. TOXICOLOGY PROGRAM NO
OSHA YES
I.A.R.C. *UNDETERMINED

***EXPLANATION:** IARC MONOGRAPHS - JAN. 1985 - THE STUDY INDICATES THERE IS SUFFICIENT EVIDENCE FOR CARCINOGENICITY IN ANIMALS FROM EXPOSURE TO EXTRACTS OF STEAM-REFINED BITUMENS, AIR-REFINED BITUMENS AND MIXTURES OF STEAM-REFINED AND AIR-DEFINED BITUMENS. DUE TO INADEQUATE EVIDENCE IN HUMANS, BUT SUFFICIENT EVIDENCE IN ANIMALS, BITUMEN IS CONSIDERED BY OSHA AS IF IT PRESENTS A CARCINOGENIC RISK TO HUMANS. THERE IS INADEQUATE EVIDENCE THAT BITUMENS ALONE ARE CARCINOGENIC TO HUMANS.

OSHA PERMISSIBLE EXPOSURE LIMIT: N/A FOR EMULSION (ASPHALT FUMES: 5mg/m³ MAX CEILING)

ACGIH THRESHOLD LIMIT VALUE: N/A FOR EMULSION (ASPHALT FUMES: 5mg/m³ TWA)

OTHER EXPOSURE LIMIT USED: NONE

ROUTES OF EXPOSURE: PRIMARY - SKIN CONTACT
SECONDARY - INGESTION OR INHALATION

SIGNS AND SYMPTOMS OF EXPOSURE: SKIN - CONTACT WITH HOT PRODUCT MAY CAUSE THERMAL BURNS. PROLONGED OR REPEATED CONTACT WITH COOL PRODUCT MAY CAUSE IRRITATION. ASPHALT EMULSIONS HAVE NOT BEEN INVESTIGATED FOR POSSIBLE CARCINOGENICITY.

INGESTION - EMULSIONS MAY CAUSE NAUSEA AND IRRITATION OF GASTROINTESTINAL TRACT.

INHALATION - EXCESSIVE EXPOSURE TO FUMES, VAPORS OR MISTS MAY CAUSE SOME RESPIRATORY DISCOMFORT OF THE MUCOUS MEMBRANES. ASPHALT, WHEN HEATED, RELEASES VARIOUS CONCENTRATIONS OF HYDROGEN SULFIDE (H₂S) GAS. H₂S IS AN EXTREMELY TOXIC AND FLAMMABLE GAS THAT AT LOW CONCENTRATIONS IS IRRITATING TO THE RESPIRATORY TRACT AND HAS A ROTTEN EGG ODOR. ODOR CAN NOT BE RELIED ON AS A MEANS OF DETECTION BECAUSE AT HIGHER CONCENTRATIONS OF 500 - 1000 ppm MAY LEAD TO UNCONSCIOUS, RESPIRATORY PARALYSIS AND DEATH.

EMERGENCY AND FIRST AID PROCEDURES: INHALATION - IF OVEREXPOSURE OCCURS, REMOVE INDIVIDUAL TO FRESH AIR. IF DISCOMFORT CONTINUES, SEEK MEDICAL ATTENTION.

EYES - FLUSH EYES IMMEDIATELY WITH COPIOUS AMOUNTS OF WATER AT LEAST 15 MINUTES OCCASIONALLY LIFTING THE UPPER AND LOWER EYE LIDS. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN - HOT PRODUCT SHOULD BE COOLED WITH WATER. CLEAN SKIN WATERLESS TYPE HAND CLEANER FOLLOWED BY SOAP AND WATER. IF IRRITATION OR BURN DEVELOPS, SEEK MEDICAL ATTENTION. COOL PRODUCT MAY BE CLEANED WITH WATERLESS TYPE HAND CLEANER.

INGESTION: IF MATERIAL IS SWALLOWED, DO NOT INDUCE VOMITING. TREAT SYMPTOMATICALLY AND GET MEDICAL ATTENTION.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: UNKNOWN

SECTION 7 - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: NORMALLY NOT NEEDED, BUT IF CONDITIONS WARRANT USE ORGANIC VAPOR RESPIRATORS.

VENTILATION LOCAL EXHAUST: AS NEEDED TO REMOVE MISTS OR VAPORS.

PROTECTIVE GLOVES: IMPERVIOUS COATING

EYE PROTECTION: CHEMICAL GOGGLES OR SAFETY GLASSES WITH SIDE SHIELDS.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: APPROPRIATE CLOTHING TO PREVENT REPEATED OR PROLONGED CONTACT WITH SKIN.

SECTION 8 - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: AVOID HEATED PRODUCT FUMES.

OTHER PRECAUTIONS: OBSERVE GOOD PERSONAL HYGIENE. LAUNDRY CONTAMINATED CLOTHES BEFORE REUSE. DO NOT WEAR LEATHER SHOES OR BOOTS THAT HAVE BECOME SATURATED WITH PRODUCT.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: CREATE DIKES OR PONDS AS SOON AS POSSIBLE. USE EARTH, SAWDUST OR SAND TO MAKE DIKES OR TO USE AS ABSORBENT. UPON ABSORPTION, MATERIAL WILL REVERT TO ASPHALT STATE AND CAN BE REMOVED WITH ABSORPTION MATERIAL.

WASTE DISPOSAL METHODS: EMULSION CAN BE MIXED WITH ANY STABILIZING MATTER (e.g., ROCK, GRAVEL OR SAND) IN ORDER TO CHANGE ITS STATE FROM A LIQUID INTO A SOLID. THIS MATERIAL CAN THEN BE DISPOSED OF AT AN APPROVED LANDFILL.

EXPLANATION OF ABBREVIATIONS:
N/D - NOT DETERMINED
N/A - NOT APPLICABLE
TLV - THRESHOLD LIMIT VALUE
TWA - TIME WEIGHTED AVERAGE

DISCLAIMER OF LIABILITY
BY P.C.T.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES, WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS ACCURACY OR CORRECTNESS. THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT BY OTHERS ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME ANY RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT. NOTE THAT SOME MATERIAL IDENTIFIERS MAY OR MAY NOT CONTAIN HYPHENS. A MATERIAL NAME THAT DOES NOT CONTAIN A HYPHEN SHOULD BE CONSIDERED THE SAME AS THE NAME WITH A HYPHEN.

Material Safety Data Sheet

May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be
consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072



IDENTITY (As Used on Label and List)
PVC Pipe and Fittings

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name
Charlotte Pipe and Foundry Co., Plastics Division

Emergency Telephone Number
(800) 424-9300 (CHEMTREC)

Address (Number, Street, City, State, and ZIP Code)
P.O. Box 1339

Telephone Number for Information
(704) 372-3650

4210 Old Charlotte Hwy.

Date Prepared
May, 2010

Monroe, N.C. 28111-1339

Signature of Preparer (optional)

Section II - Hazard Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
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Less than 3.2 parts per million (ppm) of residual vinyl chloride monomer (rvcm)

Section III - Physical/Chemical Characteristics

Boiling Point Not Applicable	Solid	Specific Gravity (H ₂ O = 1)	1.42 - 1.56
Vapor Pressure (mm Hg.) Not Applicable	Solid	Melting Point Processing Temperature	390°F
Vapor Density (AIR = 1) Not Applicable	Solid	Evaporation Rate (Butyl Acetate = 1)	Solid
Solubility in Water Not Applicable			
Appearance and Odor White, Grey or Green Solid - None			

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) Flash Ignition Temp (ASTM D 1929) ~735°F	Flammable Limits Not Applicable	LEL N/A	UEL N/A
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Extinguishing Media
Water spray, CO₂ Dry Chemical

Special Fire Fighting Procedures
In confined spaces, self-contained breathing apparatus should be worn.

PVC is a combustible thermoplastic material.

Unusual Fire and Explosion Hazards
Evolves carbon monoxide, hydrogen chloride, and other toxic gases when burned.

Run off water from firefighting may have corrosive effects.

(Reproduce locally)

Section V - Reactivity Data

Stability	Unstable	Conditions to Avoid
Not Applicable	Stable	Not Applicable

Incompatibility (Materials to Avoid)

Not Applicable

Hazardous Decomposition or Byproducts

Emits CO, CO₂, hydrogen chloride, organotins and various hydrocarbons with combustion.

Hazardous Polymerization	May Occur	Conditions to Avoid
Not Applicable	Will Not Occur	Not Applicable

Section VI - Health Hazard Data

Route(s) of Entry: Inhalation? Skin? Ingestion?
Not Applicable

Health Hazards (Acute and Chronic)

Not Applicable

Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?
Not Applicable

Signs and Symptoms of Exposure

Combustion products will cause eye, nose and throat irritation.

Medical Conditions Generally Aggravated by Exposure

Prolonged exposure to combustion products may cause bronc spasm in individuals with bronchial asthma.

Emergency and First Aid Procedures

Remove individual from fire area. Call physician, provide protection before re-entry.**If overexposure occurs, leave fire area. If irritation persists, wash with water.****Section VII - Precautions for Safe Handling and Use**

Steps to Be Taken in Case Material is Released or Spilled

Not Applicable

Waste Disposal Method

Can be sent to sanitary landfill.

Precautions to Be taken in Handling and Storing

Sprinklered warehouses recommended.

Other Precautions

None.**Section VIII - Control Measures**

Respiratory Protection (Specify Type)

Not Applicable

Ventilation	Local Exhaust	Special
	Not Applicable	Not Applicable
	Mechanical (General)	Other
	Not Applicable	Not Applicable

Protective Gloves Eye Protection
None. **None.**

Other Protective Clothing or Equipment

None.

Work/Hygienic Practices

None.