

PRODUCT NAME

AMERICAN – 034b

Refer to Material Safety Data Sheet for more information.

MANUFACTURER

AMERICAN CENTRIFUGAL
A Division of American Cast Iron Pipe Company
P.O. Box 2727
Birmingham, Alabama 35202-2727

FIRE HAZARD

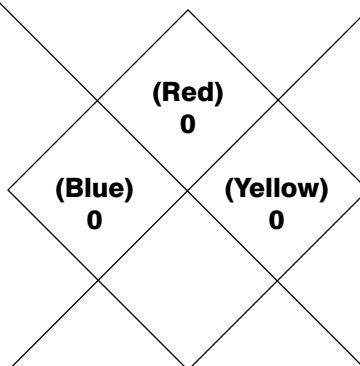
4. EXTREMELY DANGEROUS FIRE AND EXPLOSION HAZARD.
3. FIRE AND EXPLOSION HAZARD AT NORMAL TEMP.
2. WILL BURN AT TEMPS. ABOVE 100°F.
1. WILL BURN AT TEMPS. ABOVE 200°F.
0. WILL NOT BURN.

HEALTH HAZARD

4. EXTREME HAZARD-AVOID CONTACT OR BREATHING VAPOR.
3. SEVERE HAZARD-USE SPECIAL CLOTHING AND MASKS.
2. HAZARDOUS-USE MASKS OR SPECIAL VENTILATION.
1. SLIGHTLY HAZARDOUS-IRRITATING.
0. NORMAL MATERIAL

REACTIVITY HAZARD

4. EXTREME HAZARD-VACATE AREA IN CASE OF FIRE.
3. SEVERE EXPLOSION HAZARD.
2. VIOLENT CHEMICAL CHANGE POSSIBLE.
1. UNSTABLE IF HEATED.
0. NORMALLY STABLE.



P
POLYMERIZES

CAUTION: WELDING, CUTTING, OR GRINDING
ON THIS CASTING MAY GENERATE
TOXIC DUST OR FUMES.

INGREDIENTS


	(PERCENT)
Chromium	31.00 Max
Copper	1.20 Max
Iron	Balance
Manganese	2.00 Max
Molybdenum	1.50 Max
Nickel	1.00 Max
Silicon	2.80 Max
Vanadium	0.50 Max

STORAGE AND HANDLING

No Special Precautions

MATERIAL SAFETY DATA SHEET

SECTION I. NAME AND PRODUCT

MANUFACTURER'S NAME AMERICAN CENTRIFUGAL A Division of AMERICAN CAST IRON PIPE COMPANY		ACIPCO EMERGENCY PHONE NUMBER: 205/325-7975
ADDRESS (STREET, CITY, STATE AND ZIP CODE) P.O. BOX 2727 BIRMINGHAM, ALABAMA 35202		ACIPCO PHONE NUMBER: 205/325-7701
TRADE NAME, COMMON NAME OR SPECIFICATION CENTRIFUGAL OR STATIC CASTING		24 HOUR FAX: 205/307-2822
CHEMICAL FAMILY OR PRODUCT TYPE TOOL STEEL AMERICAN - 034b		EFFECTIVE DATE: APRIL 1, 2006
		APPROVED BY: 

SECTION II. REGULATED INGREDIENTS

CHEMICAL NAME	CAS #	PERCENT INGREDIENT	OSHA PERMISSIVE EXPOSURE LIMIT	ACGIH TLV
Carbon	7440-44-0	3.00 Max	N/E	N/E
*Chromium	1333-82-0	31.00 Max	5 ug/m ³ as CrVI	0.05 mg/cu.m
*Copper	7440-50-8	1.20 Max	1.0 mg/cu.m. dust	1.0 mg/cu.m dust
*Copper	7440-50-8	1.20 Max	0.1 mg/cu.m. fume	0.2 mg/cu.m fume
Iron		balance	10 mg/cu.m fume	5 mg cu.m fume
*Manganese	7439-96-5	2.00 Max	C 5 mg/cu.m dust	0.2 mg/cu.m dust
*Manganese	7439-96-5	2.00 Max	C 5 mg/cu.m fume	0.2 mg/cu.m fume
Molybdenum	7439-98-7	1.50 Max	5 mg/cu.m	0.5 R mg/cu.m
*Nickel	7440-02-0	1.00 Max	1.5 mg/cu.m	1.0 mg/cu.m
Silicon	7440-21-3	2.80 Max	15 mg/cu.m	Withdrawn
*Vanadium	1314-62-1	0.50 Max	0.5 mg/cu.m dust	0.05 mg/cu.m dust
*Vanadium	1314-62-1	0.50 Max	0.1 mg/cu.m fume	0.05 mg/cu.m fume
*See Section IX				

SECTION III. PHYSICAL AND CHEMICAL DATA

Boiling Point	Variable by grade	Melting Point	approximately 2600°F	Specific Gravity	7.70
Vapor Pressure	N/A	Percent Volatile by Vol.	N/A	Vapor Density	N/A
Evaporation Rate	N/A	Solubility in Water	Insoluble	Solubility in Alcohol	Insoluble
Solubility in Other Solvent	N/A	Appearance and Odor	Silver Gray – No Odor		

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point	N/A	(Method Used)	N/A	Flammable Limits	LEL - N/A UEL - N/A
Extinguishing Media	N/A				
Special Fire Fighting Procedures	N/A				
Explosion Potential	N/A				

SECTION V. HEALTH, FIRST AID AND MEDICAL DATA

PRIMARY ROUTES OF ENTRY	ACUTE AND CHRONIC HEALTH EFFECTS AND EFFECTS OF OVEREXPOSURE	EMERGENCY AND FIRST AID PROCEDURES
Inhalation	See overview	See overview
Ingestion	N/A	N/A
Skin	N/A	N/A
Eye	N/A	Foreign body injury

Other Potential Health Risks

Steel castings as supplied do not constitute a health hazard. If material is to be modified, follow the appropriate safe work procedures for eye, respiratory and body protection.

SECTION VI. CORROSIVITY AND REACTIVITY DATA

Stability: Unstable ☐ Stable ☒ Hazardous Polymerization: May Occur ☐ Will Not Occur ☒

INCOMPATIBILITY (MATERIALS TO AVOID)

N/A

DECOMPOSITION PRODUCTS

N/A

CONDITIONS TO BE AVOIDED

N/A

SECTION VII. STORAGE, HANDLING AND USE PROCEDURES

NORMAL STORAGE AND HANDLING

Follow safe handling and storage procedures.

NORMAL USE

Machinery components.

STEPS TO BE TAKEN IN CASE OF LEAKS OR SPILLS

N/A

WASTE DISPOSAL METHOD

Re-melt in appropriate furnace.

SECTION VIII. PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE) MSHA/NIOSH approved respirator for dust and metal fumes.

VENTILATION

LOCAL

See below

MECHANICAL (GENERAL)

See below

OTHER

See below

PROTECTIVE GLOVES

See below

EYE PROTECTION

See below

OTHER EQUIPMENT

See below

MEASURES TO BE TAKEN DURING cutting, machining, welding, etc.

Steel castings as supplied do not constitute a health hazard. If material is to be modified, follow the appropriate safe work procedures for eye, respiratory and body protection.

SECTION IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Same as Section VII

OTHER PRECAUTIONS: *These chemicals are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

NAIF = NO APPLICABLE INFORMATION FOUND

N/A = NOT APPLICABLE

NOTICE: American Cast Iron Pipe Company believes that the information contained on this Material Safety Data Sheet is accurate. The suggested procedures are based on experience as of the date of publication. They are not necessarily all-inclusive nor fully adequate in every circumstance. Also, the suggestions should not be confused with nor followed in violation of applicable laws, regulations, rules or insurance requirements.

NO WARRANTY, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS OR OTHERWISE IS MADE.

AMERICAN CENTRIFUGAL
A DIVISION OF AMERICAN CAST IRON PIPE COMPANY

MATERIAL SAFETY DATA SHEET
OVERVIEW

Tool Steel, AMERICAN – 034b and
High Alloy Steel, AMERICAN – 035a

There are no chemical hazards from these castings in solid form.

Dust or fumes generated by machining, grinding, or welding on the casting may put contaminants in the air. Since the casting is predominately iron, most of the dust or fume will be iron or iron oxide. There is no TLV for iron dust, but the available information indicates that the TLV for nuisance dust will serve as a guideline until a TLV is established.

High production dry machining of iron or steel castings may require local exhaust ventilation.

Flame cutting, arc-gouging, or welding on the casting generates iron oxide fume. Inhalation of too much 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. Also see the Material Safety Data Sheet for the welding rod being used.

Welding or flame cutting may convert a fraction of the chromium to the water insoluble hexavalent (carcinogenic) form. Water insoluble hexavalent chromium is classified as a human carcinogen by the American Conference of Governmental Industrial Hygienists (ACGIH). Approximately 66% of the total chromium (in welding fume) is hexavalent, and only 5% of that is insoluble. Since these castings may contain large amounts of chromium and nickel, airborne contaminants from machining or welding will contain chromium and nickel dust or fume. If total fume and dust is adequately controlled, chromium and nickel will also be controlled.

Nickel has been shown to cause cancer in laboratory animals. However, its potential to cause cancer in humans has not been determined.

Grinding on castings that have not been cleaned or that contain embedded silica will 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 dust respirator.

Other toxic metals in the alloy are present in small amounts that will not represent a health hazard if copper dust and fumes are adequately controlled.