## Form Approved Onto the Addition?

## U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration

## MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

|   | Shipbuilding        | ), and          | Shibbres                    | king (29 CF | R 1915, 1916, 191        | (7)                             |                 |   |  |
|---|---------------------|-----------------|-----------------------------|-------------|--------------------------|---------------------------------|-----------------|---|--|
|   |                     |                 | SEC                         | TION        |                          |                                 |                 | ,                                       |  |
| MANUFACTURERS NAME  |                     | <del></del>     |                             |             | BMERG                    | ENCY TELEPHONE NO               |                 | - · · · · · · · · · · · · · · · · · · · |  |
| Krohn Industries, In  | (201) 933-9696      |                 |                             |             |                          |                                 |                 |   |  |
| 303 Veterans Blvd.,   |                     | Reviewed 9/5/14 |                             |             |                          |                                 |                 |   |  |
| Cu, P, Brazing Filler Metal   |                     |                 |                             |             | TRADE HAME AND SYNONYLES |                                 |                 |   |  |
| CHEMICAL FAMILY   |                     | K-Braze 06      |                             |             |                          |                                 |                 |   |  |
| Brazing Filler Meta   | 1                   |                 |                             | 92.5% Cu    | , 7.5% P                 | ···                             |                 |   |  |
|   | SECTION             | V II -          | - HAZA                      | RDOUS II    | NGREDIENTS               | *                               | <del></del>     |   |  |
| Filler Metal & Flux Components  | Cas#                | T               | AUGIH <sup>A</sup><br>V-TVA | Decompos    | ition<br>ts              | Cas#                            | do              | ACGIH:                                  |  |
| Copper (Cu)   | 7440-50-8           | 1               | N.A.                        |             |                          | 7440 :-50-8                     | 92.             |   |  |
| Phosphorus (P)  | 7723-14-0           | 7.5             | N.A.                        | Phospho     | cus Fume (P)             | 7723-14-0                       | 7.5             | 0.1 mg                                  |  |
|   |                     |                 |                             |             | <u></u>                  |                                 | $\neg$          |   |  |
| <del></del>   |                     | 1 1             |                             |             |                          |                                 | 1               |   |  |
| ,   |                     | 1 1             |                             | •           |                          |                                 | +-              |   |  |
|   |                     | ╀╌┤             |                             |             | · ·                      | <u> </u>                        |                 |   |  |
| possible base meta<br>particular chemist<br>**Approximate million<br>weighted axerage p | ry.<br>grams of sub | stand           | ce per (                    | cubic met   | er of air or             | parts per m                     | illio           | n-time                                  |  |
|   | e e e               | ·TIO            | NI 111 — 1                  | PHYSICA     | DATA                     |                                 | · · · · ·       |   |  |
| EDU MES PONT (E.E.)   | SEC.                |                 | ,                           | 1           | E DOUG                   | · <del></del>                   |                 | . A.                                    |  |
| BOILING POINT OF  |                     |                 | PERCENT, VI                 |             | DLATILE                  |                                 |                 | N.A.                                    |  |
| VAPOR PRESSURE (mm mg )   |                     | ┥—              | N.A                         | BY VOLUME   |                          |                                 |                 |   |  |
| PAPON DENSITY (AIR-1)   | <del></del>         | —               | N.A.                        | ļ           | - 1)                     |                                 | <del>- </del> ! | I.A.                                    |  |
| SOLUBILITY BY WATER   |                     |                 | N.A.                        | <u>i</u>    |                          |                                 | 4_              |   |  |
| APPEARANCE AND ODOR   |                     |                 | Metalli                     | ic- rod,    | strip, wire,             | or powder                       |                 |   |  |
|   | CTION IV —          | EIDI            | ANDE                        | YPI OSIO    | N HAZARD I               | DATA                            |                 |   |  |
| FLASH POINT RAPHOS used:  | CHONIV —            |                 | N.A.                        | PLANNIN     | NA LIMITS                |                                 |                 |   |  |
| EFT INCUISIONS MEDIA  |                     |                 | ,                           |             | .1.2.2                   |                                 |                 |   |  |
| SPECIAL FIRE PIGHTING PROCEDURES  |                     |                 | <u> </u>                    | <u>-</u>    |                          | · _ · · · · · · · · · · · · · · |                 | • 1                                     |  |

N.A.

| SECTION V - HEALTH HAZARD DATA   |  |             |                               |                              |  |  |  |  |  |
|--|--|-------------|-------------------------------|------------------------------|--|--|--|--|--|
| TRESHOLD LIMIT VALUES: 0.2 mg/m <sup>3</sup> Cu fume; 0.1 mg/m <sup>3</sup> P fume   |  |             |                               |                              |  |  |  |  |  |
| MAJOR EXPOSURE HAZARD: Inhalation  |  |             |                               |                              |  |  |  |  |  |
| CUMULATIVE LIMITS: Welding (Brazing) Fumes- Total Particulate $(C_1+C_2) \leq 1 \text{ mg/m}^3$  |  |             |                               |                              |  |  |  |  |  |
| (C=0   | Concentration: (   | r=TL        | C) $(C_1/T_1+C_2/T_2C_N/T_N$  | <b>≤</b> I)                  |  |  |  |  |  |
| EFFECTS OF OVEREXPOSURE: Cu, P system can cause irritation of the upper respiratory tract  |  |             |                               |                              |  |  |  |  |  |
| metallic taste in mouth, nausea, and metal fume fever. Acute phosphorus poisoning usually  |  |             |                               |                              |  |  |  |  |  |
| occurs as a result of accidental or suicidal ingestion. Carious teeth and poor dental  |  |             |                               |                              |  |  |  |  |  |
| hygiene increase susceptibility.   |  |             |                               |                              |  |  |  |  |  |
| FIRST AID: If dust or fumes gets into eyes irrigate immediately. If a person breathes in   |  |             |                               |                              |  |  |  |  |  |
| large amounts of dust or fumes, move the exposed person to fresh air at once, contact  |  |             |                               |                              |  |  |  |  |  |
| physician, and give oxygen or artificial respiration. If swallowed get medical attention immediately. Give large quantities of water and induce vomiting. Do Not make an uncon   |  |             |                               |                              |  |  |  |  |  |
|  | s drancities or  | wale.       | and induce vomicing.          | bo Not make an uncon         |  |  |  |  |  |
| scious person vomit.   | SECTION  | VI ·        | REACTIVITY DATA               |                              |  |  |  |  |  |
| STABILITY  | UNSTABLE   | Ţ <u>-</u>  | CONDITIONS TO AVOID           |                              |  |  |  |  |  |
|  | 5.15 - 15 - 15 - 15 - 15 - 15 - 15 - 15  | E-          |                               |                              |  |  |  |  |  |
|  | STABLE   |             |                               |                              |  |  |  |  |  |
|  |  | X           | Stable at room tempera        | ture                         |  |  |  |  |  |
| INCOMPATABILITY (MATERIAL  | LS TO AVOID:   |             | N.A.                          |                              |  |  |  |  |  |
| HAZARDOUS DECOMPOSITION  | PRODUCTS: Cu fu  | mes,        | P fumes may be generat        | ed during brazing            |  |  |  |  |  |
|  | avoid  | ove:        | rheating                      |                              |  |  |  |  |  |
| HAZARDOUS  | MAY OCCUR  |             | CONDITIONS TO AVOID           |                              |  |  |  |  |  |
| POLYMERIZATION   |  |             |                               |                              |  |  |  |  |  |
| ₹  | WILL NOT OCCUR   |             |                               |                              |  |  |  |  |  |
|  |  | X           |                               |                              |  |  |  |  |  |
| SECTION VII - SPILL OR LEAK PROCEDURES   |  |             |                               |                              |  |  |  |  |  |
| STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: No problem in picking up wire,  |  |             |                               |                              |  |  |  |  |  |
| rod, or srip form of the alloy, for use, reclaim or scrap. WASTE DISPOSAL METHOD: Consider possible reclaim value. Scrap alloy can be disposed of  |  |             |                               |                              |  |  |  |  |  |
| WASTE DISPOSAL METHOD:   | Consider possib  | ie r        | eclaim value. Scrap al        | loy can be disposed of       |  |  |  |  |  |
| througth a licensed was  | te disposal comp   | any,        | in accordance with red        | eral, State, and Local       |  |  |  |  |  |
| regulations. The dispo   | sal of collected   | rum         | es (see section vill) i       | rom the exhaust venti-       |  |  |  |  |  |
| lation system must be c  | onsidered also.  | DECT        | AT PROMEONTON THEORMANT       | ON                           |  |  |  |  |  |
| SECTION VIII - SPECIAL PROTECTION INFORMATION  |  |             |                               |                              |  |  |  |  |  |
| RESPIRATORY PROTECTION: None for brazing in properly ventilated area. In confinded space use an airline respirator or hose mask. NIOSH U.S. Bureau of Mines approved hose type C                                       |  |             |                               |                              |  |  |  |  |  |
| or self-contained air-r  |  | N1          | OSA 0.5. Bulead OI Mile       | s approved nose type t       |  |  |  |  |  |
| VENTILATION  |  | Air F       | low to produce velocity of    | SPECIAL:                     |  |  |  |  |  |
| FOR FUMES  | 100 linear ft./min. in brazing zone. See Footnote  |             |                               |                              |  |  |  |  |  |
| AND GASES  | MECHANICAL:  |             |                               | OTHER:                       |  |  |  |  |  |
|  | •  | Cu.         | ft./min./brazer               | See Footnote                 |  |  |  |  |  |
| PROTECTIVE GLOVES:   |  |             | EYE PROTECTION: Plast         | ic frame safety glasses with |  |  |  |  |  |
| Leath  | er Welding Glove   | S           | side shields filter lens      | es (shade #364)              |  |  |  |  |  |
| OTHER PROTECTIVE EQUIPMENT: Normal clothing for torch brazing  |  |             |                               |                              |  |  |  |  |  |
| SECTION IX - SPECIAL PRECAUTIONS   |  |             |                               |                              |  |  |  |  |  |
| PRECAUTIONS TO BE TAKEN IN HANDLING & STORING: Avoid heating above recommended brazing temperature   |  |             |                               |                              |  |  |  |  |  |
| range (1325-1500°F) as excessive fumes may result. Store brazing alloy, carefully in a clean, dry place to   |  |             |                               |                              |  |  |  |  |  |
| prevent contamination. Keep away from strong condizing agents.   |  |             |                               |                              |  |  |  |  |  |
| OTHER PRECAUTIONS: Follow safety and legal requirements in brazing with this alloy and using a fluoride-<br>containing flux (a usual practice). Fluoride flux when heated gives off fumes that can irritate eyes, nose |  |             |                               |                              |  |  |  |  |  |
| containing flux (a usual prac  | and throat. Avoid fumes. (TLV=2.5mg/m <sup>3</sup> ) Use only in well ventilated spaces. Avoid contact of flux with eyes |             |                               |                              |  |  |  |  |  |
| and throat. Avoid tumes. (II   | v=2.mg/m~) USE ONLY  | r∭.¥<br>◆α\ | RELL VERLIAGEU SPACES. AVOID  | i contract or time with eles |  |  |  |  |  |
| or skin. Do not take flux in   |  |             |                               |                              |  |  |  |  |  |
| *FOOTNOTE: Refer to "OSHA!   | Standard 29 CFR 1910   | " fxa       | n the U.S. government printir | g office Washington D.C.     |  |  |  |  |  |
| 20 VO2 and ANSI standard 249.1- "Safety in Welding & Outling", published by the American Welding Society.  |  |             |                               |                              |  |  |  |  |  |