

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015) Global Brazing Solutions*

Date of issue: 29 November 2017 Version: 2.0

| SECTION 1: Identific | cation | | | |
|--|---|--------------------------------------|----------------|--|
| 1.1. Product identifi | er | | | |
| Product form | : Mixture | | | |
| Trade name | : 65AG/20CU/15 | 5PD VTG | | |
| Product code | : A00000452 | | | |
| Product group | : Trade product | | | |
| 1.2. Recommended | use and restrictions on use | | | |
| No additional information a | vailable | | | |
| 1.3. Supplier | | | | |
| Lucas-Milhaupt Toronto 290 Carlingview Drive M9W 5G1 Rexdale - Cana T +1 (416) 675-1860 LM SDSinfo@lucasmilhau | da <u>pt.com</u> - <u>www.lucasmilhaupt.com</u> | | | |
| 1.4. Emergency tele | phone number | | | |
| Emergency number | : CHEMTREC W | /ithin the USA and Cana | ada: 1-800-424 | 4-9300 |
| SECTION 2: Hazard | identification | | | |
| | f the substance or mixture | | | |
| Classification (GHS CA) | | | | |
| · · · · · | nvironment — Acute Hazard, Category 1 | I H400 | | |
| Full text of H statements : | | | | |
| 2.2. GHS Label elem | nents, including precautionary stateme | ante | | |
| GHS CA labelling | ients, including precautionary stateme | 51115 | | |
| Hazard pictograms (GHS (| | | | |
| Signal word (GHS CA) | : Warning | | | |
| Hazard statements (GHS (| CA) : H400 - Very to | xic to aquatic life. | | |
| Precautionary statements (| GHS CA) : P273 - Avoid r P391 - Collect P501 - Dispose | elease to the environments spillage. | o hazardous o | r special waste collection point, in national regulation |
| 2.3. Other hazards | | | | |
| No additional information a | vailable | | | |
| 2.4. Unknown acute | toxicity (GHS CA) | | | |
| No data available | | | | |
| SECTION 3: Compo | sition/information on ingredier | nts | | |
| 3.1. Substances | | | | |
| Not applicable | | | | |
| 3.2. Mixtures | | | | |
| Name | Chemical name / Synonyms | Product identifier | % | Classification (GHS CA) |
| Silver | Silver, metallic / Silver metal / CI 77820 / Nanoscale silver / Nanosilver / Silver, metal / Silver, elemental / C.I. 77820 | (CAS-No.) 7440-22-4 | 64 - 66 | Aquatic Acute 1, H400 |
| Copper | C.I. 77400 / C.I. Pigment Metal 2 / Copper, elemental / CI 77400 / Copper metal / Copper, metallic / Pigment Metal 2 / Granulated copper | (CAS-No.) 7440-50-8 | 19 - 21 | Aquatic Acute 1, H400 |
| Palladium | Palladium Black | (CAS-No.) 7440-05-3 | 13 - 17 | Not classified |

Full text of hazard classes and H-statements : see section 16

Palladium Black

Palladium

(CAS-No.) 7440-05-3

13 - 17

Not classified

Safety Data Sheet

| according to the Hazardous Products Regulation (February 11, 2015) | | | | |
|--|--|---|--|--|
| SECTION 4: First-aid me | SECTION 4: First-aid measures | | | |
| 4.1. Description of first a | | | | |
| First-aid measures after inhalation | on : Remove person to fresh air a | nd keep comfortable for breathing. | | |
| First-aid measures after skin cor | ntact : Wash skin with plenty of wate | r. | | |
| First-aid measures after eye cor | tact : Rinse eyes with water as a pr | ecaution. | | |
| First-aid measures after ingestic | n : Call a poison center or a doct | or if you feel unwell. Rinse mouth. | | |
| First-aid measures general | : Call a poison center or a doct | : Call a poison center or a doctor if you feel unwell. | | |
| 4.2. Most important symp | ptoms and effects (acute and delayed) | | | |
| No additional information availal | ble | | | |
| 4.3. Immediate medical a | ttention and special treatment, if necessary | | | |
| Other medical advice or treatme | | | | |
| | | | | |
| SECTION 5: Fire-fighting | n measures | | | |
| 5.1. Suitable extinguishin | | | | |
| Suitable extinguishing media | : Dry powder. Water spray. For | am. | | |
| | | | | |
| 5.2. Unsuitable extinguis | | | | |
| Unsuitable extinguishing media | : Water. | | | |
| | sing from the hazardous product | | | |
| No additional information availal | ble | | | |
| 5.4. Special protective ed | quipment and precautions for fire-fighters | | | |
| Protection during firefighting | | without suitable protective equipment. Self-contained breathing | | |
| | apparatus. Complete protectiv | ve clothing. | | |
| SECTION 6: Accidental | release measures | | | |
| 6.1. Personal precaution | s, protective equipment and emergency procee | dures | | |
| No additional information availal | | | | |
| 6.2. Methods and materia | als for containment and cleaning up | | | |
| For containment | : Collect spillage. | | | |
| Methods for cleaning up | : Mechanically recover the proc | duct. | | |
| Other information | : Dispose of materials or solid | residues at an authorized site. | | |
| 6.3. Reference to other s | ections | | | |
| For further information refer to s | ection 8: "Exposure controls/personal protection" | | | |
| SECTION 7: Handling ar | nd storage | | | |
| 7.1. Precautions for safe | handling | | | |
| Precautions for safe handling | : Ensure good ventilation of the | e work station. Wear personal protective equipment. | | |
| Hygiene measures | - | nen using this product. Always wash hands after handling the | | |
| | product. | | | |
| | storage, including any incompatibilities | | | |
| Storage conditions | : Store in a well-ventilated plac | e. Keep cool. | | |
| | | | | |
| SECTION 8: Exposure controls/personal protection | | | | |
| 8.1. Control parameters | | | | |
| Copper (7440-50-8) | | | | |
| USA - ACGIH | ACGIH TWA (mg/m³) | 0.2 mg/m³ (fume) | | |
| USA - OSHA | OSHA PEL (TWA) (mg/m ³) | 0.1 mg/m ³ (fume) | | |
| | | 1 mg/m ³ (dust and mist) | | |
| Canada (Quebec) | VEMP (mg/m ³) | 0.2 mg/m ³ (fume) | | |
| Alberta | OEL TWA (mg/m³) | 0.2 mg/m ³ (fume) | | |
| British Columbia | OEL TWA (mg/m³) | 1 mg/m ³ (dust and mist) | | |
| | t de la constante de | | | |

0.2 mg/m³ (fume)

0.2 mg/m³ (fume)

0.2 mg/m³ (fume)

0.2 mg/m³ (fume)

Nova Scotia

Manitoba

New Brunswick

Newfoundland & Labrador

OEL TWA (mg/m³)

OEL TWA (mg/m³)

OEL TWA (mg/m³)

OEL TWA (mg/m³)

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

| Copper (7440-50-8) | | | |
|-------------------------|-------------------------------|---------------------------------------|--|
| Nunavut | OEL STEL (mg/m³) | 3 mg/m ³ (dust and mist) | |
| Nunavut | OEL TWA (mg/m ³) | 0.2 mg/m³ (fume) | |
| Northwest Territories | OEL STEL (mg/m³) | 3 mg/m ³ (dust and mist) | |
| Northwest Territories | OEL TWA (mg/m ³) | 0.2 mg/m³ (fume) | |
| Ontario | OEL TWA (mg/m ³) | 0.2 mg/m³ (fume) | |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.2 mg/m³ (fume) | |
| Saskatchewan | OEL STEL (mg/m ³) | 0.6 mg/m³ (fume) | |
| Saskatchewan | OEL TWA (mg/m ³) | 0.2 mg/m³ (fume) | |
| Yukon | OEL STEL (mg/m ³) | 0.2 mg/m³ (fume) | |
| Yukon | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) | |
| Silver (7440-22-4) | | | |
| USA - ACGIH | ACGIH TWA (mg/m³) | 0.1 mg/m ³ (dust and fume) | |
| USA - OSHA | OSHA PEL (TWA) (mg/m³) | 0.01 mg/m ³ | |
| Canada (Quebec) | VEMP (mg/m ³) | 0.1 mg/m ³ | |
| Alberta | OEL TWA (mg/m³) | 0.1 mg/m ³ | |
| British Columbia | OEL STEL (mg/m ³) | 0.03 mg/m ³ | |
| British Columbia | OEL TWA (mg/m ³) | 0.01 mg/m ³ | |
| Manitoba | OEL TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) | |
| New Brunswick | OEL TWA (mg/m ³) | 0.1 mg/m ³ | |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) | |
| Nova Scotia | OEL TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) | |
| Nunavut | OEL STEL (mg/m³) | 0.3 mg/m ³ (metal) | |
| Nunavut | OEL TWA (mg/m ³) | 0.1 mg/m ³ (metal) | |
| Northwest Territories | OEL STEL (mg/m ³) | 0.3 mg/m ³ (metal) | |
| Northwest Territories | OEL TWA (mg/m ³) | 0.1 mg/m ³ (metal) | |
| Ontario | OEL TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) | |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) | |
| Saskatchewan | OEL STEL (mg/m ³) | 0.3 mg/m ³ | |
| Saskatchewan | OEL TWA (mg/m ³) | 0.1 mg/m ³ | |
| Yukon | OEL STEL (mg/m ³) | 0.03 mg/m ³ | |
| Yukon | OEL TWA (mg/m ³) | 0.01 mg/m ³ | |

Appropriate engineering controls

: Ensure good ventilation of the work station.

Environmental exposure controls

: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

| SECTION 9: Physical and chemical properties | | | |
|--|---------------------|-----|--|
| 9.1. Information on basic physical and chemical properties | | | |
| Physical state | : Solid | | |
| Appearance | : No data available | | |
| Colour | : No data available | | |
| 12 February 2019 | EN (English) | 3/6 | |

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

| Odour | : No data available |
|--|---------------------|
| Odour threshold | : No data available |
| pH | : No data available |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Relative evaporation rate (ether=1) | : No data available |
| Melting point | : No data available |
| Freezing point | : Not applicable |
| Boiling point | : No data available |
| Flash point | : Not applicable |
| Auto-ignition temperature | : Not applicable |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Non flammable. |
| Vapour pressure | : No data available |
| Vapour pressure at 50 °C | : No data available |
| Relative density | : Not applicable |
| Solubility | : No data available |
| Log Pow | : No data available |
| Explosive limits | : Not applicable |
| | |

9.2. Other information

No additional information available

| SECTION 10: Stability and reactivity | | | |
|--------------------------------------|--|--|--|
| 10.1. Reactivity | | | |
| Reactivity | : The product is non-reactive under normal conditions of use, storage and transport. | | |
| Chemical stability | : Stable under normal conditions. | | |
| Possibility of hazardous reactions | : No dangerous reactions known under normal conditions of use. | | |
| Conditions to avoid | : None under recommended storage and handling conditions (see section 7). | | |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. | | |

| SECTION 11: Toxicological information | | | |
|---------------------------------------|------------------|--|--|
| 11.1. Information on toxicolog | ical effects | | |
| Acute toxicity (oral) | : Not classified | | |
| Acute toxicity (dermal) | : Not classified | | |
| Acute toxicity (inhalation) | : Not classified | | |
| | | | |

| Silver (7440-22-4) | |
|-----------------------------------|------------------|
| LD50 oral rat | > 5000 mg/kg |
| LD50 dermal rat | > 2000 mg/kg |
| Skin corrosion/irritation | : Not classified |
| Serious eye damage/irritation | : Not classified |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| STOT-single exposure | : Not classified |
| | : Not classified |
| STOT-repeated exposure | |
| Aspiration hazard | : Not classified |
| | |

Safety Data Sheet

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| | to the Hazardous Products Regulation (February | | |
|---|--|---|--|
| SECT | ION 12: Ecological information | | |
| 12.1. | Toxicity | | |
| Ecology | r - general | The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. Very toxic to aquatic life. | |
| Acute a | quatic toxicity | : Very toxic to aquatic life. | |
| Chronic | aquatic toxicity | Not classified | |
| Copp | er (7440-50-8) | | |
| EC50 | 96h algae (1) | 0.031 - 0.054 mg/l (Species: Pseudokirchneriella subcapitata [static]) | |
| 12.2. | Persistence and degradability | | |
| No add | tional information available | | |
| 12.3. | Bioaccumulative potential | | |
| No add | tional information available | | |
| 12.4. | Mobility in soil | | |
| No addi | tional information available | | |
| 12.5. | Other adverse effects | | |
| Ozone | | : Not classified | |
| OZONO | | | |
| | | | |
| SECT | ION 13: Disposal considerations | | |
| 13.1. | Disposal methods | | |
| Waste t | reatment methods | : Dispose of contents/container in accordance with licensed collector's sorting instructions. | |
| SECT | ION 14: Transport information | | |
| 14.1. | Basic shipping description | | |
| In acco | rdance with TDG | | |
| Transp | ortation of Dangerous Goods | | |
| Not reg | ulated for transport | | |
| 14.2. | Transport information/DOT | | |
| Departi | nent of Transport | | |
| Not reg | ulated for transport | | |
| | | | |
| 14.3. | Air and sea transport | | |
| IMDG | ulate al feu transment | | |
| Not reg | ulated for transport | | |
| IATA | | | |
| Not reg | ulated for transport | | |
| SECT | ION 15: Regulatory information | | |
| | ational regulations | | |
| | | | |
| | Copper (7440-50-8) Listed on the Canadian DSL (Domestic Substances List) | | |
| | Palladium (7440-05-3) | | |
| Listed on the Canadian DSL (Domestic Substances List) | | | |
| Silver (7440-22-4) | | | |
| | Listed on the Canadian DSL (Domestic Substances List) | | |
| | 15.2. International regulations | | |
| 10.2. 11 | tornational regulations | | |

Safety Data Sheet

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| Copper (7440-50-8) | |
|--|--|
| Listed on IECSC (Inver Listed on the EEC inver Listed on the Korean E Listed on NZIOC (New 2 Listed on PICCS (Philip Listed on the United Sta | stralian Inventory of Chemical Substances) httory of Existing Chemical Substances Produced or Imported in China) httory EINECS (European Inventory of Existing Commercial Chemical Substances) CL (Existing Chemicals List) Zealand Inventory of Chemicals) opines Inventory of Chemicals and Chemical Substances) ates TSCA (Toxic Substances Control Act) inventory an National Inventory of Chemical Substances) tory of chemical |
| Palladium (7440-05-3) | |
| Listed on IECSC (Inver Listed on the EEC inver Listed on the Korean E Listed on NZIOC (New 2 Listed on PICCS (Philip Listed on the United Sta | stralian Inventory of Chemical Substances) ntory of Existing Chemical Substances Produced or Imported in China) ntory EINECS (European Inventory of Existing Commercial Chemical Substances) CL (Existing Chemicals List) Zealand Inventory of Chemicals) opines Inventory of Chemicals and Chemical Substances) ates TSCA (Toxic Substances Control Act) inventory an National Inventory of Chemical Substances) |
| Silver (7440-22-4) | |
| Listed on IECSC (Inver Listed on the EEC inver Listed on the Korean E Listed on NZIOC (New 2 Listed on PICCS (Philip Listed on the United Sta Japanese Pollutant Rel | stralian Inventory of Chemical Substances) htory of Existing Chemical Substances Produced or Imported in China) htory EINECS (European Inventory of Existing Commercial Chemical Substances) CL (Existing Chemicals List) Zealand Inventory of Chemicals) ppines Inventory of Chemicals and Chemical Substances) ates TSCA (Toxic Substances Control Act) inventory lease and Transfer Register Law (PRTR Law) an National Inventory of Chemical Substances) tory of chemical |
| SECTION 16: Othe | r information |
| Data of issue | - 20 Nevember 2017 |

Date of issue

: 29 November 2017

Full text of H-statements:

H400 Very toxic to aquatic life.

SDS Canada (GHS)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product