

## **SAFETY DATA SHEETS**

**This SDS packet was issued with item:**

073262789

**The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).**

073262771



MS437092

MIRACLE MIX - ALLOY
MATERIAL SAFETY DATA SHEET

Page 1 of 2

SECTION 1 - SOURCE/IDENTITY/USE INFORMATION

DISTRIBUTOR

GC AMERICA INC.
3737 West 127th St.
Alsip, Illinois, 60803
Telephone: 708-597-0900
Hours: Mon.- Fri. 8:00 am. - 5:00 pm. C.S.T.
Transportation Emergency Telephone No. 800-424-9300

COMMON NAME: MIRACLE MIX - ALLOY

CHEMICAL NAME: N.A.

PRODUCT USE: Reinforced glass ionomer crown/core material - alloy component

The following information is provided with regard to the toxicity and hazards of the pure components present in this portion of the unmixed powder/liquid system.

SECTION 2 - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Table with 5 columns: COMPONENT, C.A.S., EXPOSURE LIMITS, LD50/LC50, and %. Rows include Silver metal, Tin metal, and Copper metal with their respective CAS numbers, exposure limits, and toxicity data.

SECTION 3 - PHYSICAL/CHEMICAL PROPERTIES

BOILING POINT: 1287.8°C
VAPOR PRESSURE: N.E.
VAPOR DENSITY: N.E.
SOLUBILITY IN WATER: Insoluble
COEFFICIENT OF OIL/WATER DISTRIBUTION: N.E.
SPECIFIC GRAVITY (H2O = 1): N.E.
MELTING POINT: 587.8°C
EVAPORATION RATE: N.E.
ODOR THRESHOLD: N.E.
APPEARANCE AND ODOR: Very fine gray powder

SECTION 4 - FIRE AND EXPLOSION DATA

FLASH POINT: N.A.
FLAMMABLE LIMITS: N.A.
EXTINGUISHING MEDIA: Material is not combustible. However, air-borne dust mixed with sufficient air is flammable if flame is present. Use extinguishing media appropriate to the surrounding area.
SPECIAL FIRE FIGHTING PROCEDURES: Full protective clothing face mask and self contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Air-borne dust is flammable
HAZARDOUS COMBUSTION PRODUCTS: Carbon dioxide, carbon monoxide, toxic metallic oxides

SECTION 5 - REACTIVITY DATA

STABILITY: Stable [X] Unstable [ ]
POLYMERIZATION: Will Not Occur [X] Will Occur [ ]
CONDITIONS TO AVOID: Avoid high temperatures and humidity
INCOMPATIBILITY (Materials to Avoid): Ammonium nitrate, bromates and all halogen salts
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: N.E.

SECTION 6 - HEALTH HAZARD DATA and FIRST AID INFORMATION

Table with 9 columns: YES, NO, NE, NA, NTP, IARC, OSHA, OTHER. Rows include MUTAGENIC AFFECTS, TERATOGENIC AFFECTS, REPRODUCTIVE TOXIN, CARCINOGENICITY, and SENSITIZER.



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MIRACLE MIX - ALLOY

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SECTION 6 - HEALTH HAZARD DATA and FIRST AID INFORMATION - continued

ROUTES OF ENTRY: Inhalation [X] Skin [X] Ingestion [ ]

HEALTH HAZARD (Acute and Chronic): Can be absorbed through the skin. While not reported as toxic will cause permanent black coloration at the skin contact sites. Dust may cause a form pneumoconiosis which is relatively benign. Inhalation of copper dust has been reported to cause hemolysis of red blood cells.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: N.E.

CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: N.E.

EMERGENCY FIRST AID PROCEDURES:

INHALATION: Remove to fresh air, drink water to clear throat and blow nose to evacuate dust.

INGESTION: Seek medical assistance

SKIN: Wash with soap and water.

EYES: Flush with large quantities of water. If irritation develops or persists seek medical attention.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

IN CASE OF RELEASE OR SPILL: Avoid generating dust during clean up. Wear protective clothing as noted in section 8. If dust is generated use a filter equipped vacuum and MSHA/NIOSH approved mask.

WASTE DISPOSAL METHOD: In accordance with local, state and federal regulations.

STORAGE, HANDLING, AND SPECIAL PRECAUTIONS: Store at room temperature and humidity.

SECTION 8 - CONTROL MEASURES

RESPIRATORY PROTECTION: Minimize exposure to dust in accordance with good hygiene practice. If needed, use MSHA-NIOSH approved respirator for dusts, mists and fumes.

VENTILATION: Local Exhaust: Yes Mechanical: Yes Special: N.A. Other: N.A.

PROTECTIVE GLOVES: Disposable vinyl gloves recommended.

EYE PROTECTION: Safety glasses

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Eyewash station

WORK/HYGIENIC PRACTICE: Follow safe hygiene practices.

SECTION 9- PREPARATION INFORMATION

This data is supplied to comply with OSHA Hazard Communication Standard 29 CFR 1910,1200 and W.H.M.I.S. CPR

DATE: 09 January 2006

REVIEWED: 13 February 2012

N.A. = NOT APPLICABLE

N.E. = NOT ESTABLISHED

The information herein is given in good faith but no warranty expressed or implied is made.

FIRE - 0 TOXICITY - 2 NFPA REACTIVITY - 1 SPECIAL -



# Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 02/24/2015

Version US-EN-Rev 1

Reviewed on 02/24/2015

## 1 Identification

· **Product identifier**

· **Trade name:** Miracle Mix (Alloy)

· **Relevant identified uses of the substance or mixture and uses advised against**

Dental material

The product is intended for professional use.

To avoid risks for humans and environment obtain instructions.

· **Application of the substance / the mixture** Dental filling material

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

GC America Inc.  
3737 W. 127th Street  
Alsip, IL 60803  
USA

sds@gcamerica.com

· **Information department:** Regulatory Affairs

· **Emergency telephone number:**

During normal opening times (Mon.-Fri. 8:00 AM-5:00 PM CST): +1 (708) 597-0900

Transportation (CHEMTREC®) Emergency Telephone No. +1 (800) 424-9300

## 2 Hazard(s) identification

· **Classification of the substance or mixture**

The product is not classified according to the Globally Harmonized System (GHS).

· **Additional information:**

The information provided is in regards to the toxicity and hazard rating(s) of the individual component(s) in the formulation. The associated risk(s) depends on the route(s) of exposure. The hazard rating system is based entirely on the existence of the risk(s) and does not take into account the likelihood of reduced risk(s) through proper usage and handling.

· **Label elements**

· **GHS label elements** Void

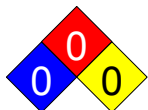
· **Hazard pictograms** Void

· **Signal word** Void

· **Hazard statements** Void

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 0

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



HEALTH 0 Health = 0

FIRE 0 Fire = 0

REACTIVITY 0 Reactivity = 0

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USA

# Safety Data Sheet

## acc. to OSHA HCS 29 CFR 1910.1200

Printing date 02/24/2015

Version US-EN-Rev 1

Reviewed on 02/24/2015

Trade name: Miracle Mix (Alloy)

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- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

7440-22-4	silver	50-70%
7440-31-5	tin	25-50%
7440-50-8	copper	10-20%

- **Additional information:**

If a substance is marked with \*\*, then substance is a trade secret. This is allowed under OSHA's Hazard Communication Standard (HCS) as a trade secret and under GHS as Confidential Business Information (CBI).

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
No special measures required.  
If symptoms persist consult doctor.
- **After inhalation:**  
Supply fresh air; consult doctor in case of complaints.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**  
Rinse with warm water.  
If symptoms persist consult doctor.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**  
Rinse out mouth and then drink plenty of water.  
If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.  
Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet

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USA

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## acc. to OSHA HCS 29 CFR 1910.1200

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Version US-EN-Rev 1

Reviewed on 02/24/2015

Trade name: Miracle Mix (Alloy)

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- **Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Remove persons from danger area.
- **Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to penetrate the ground/soil.  
In case of seepage into the ground inform responsible authorities.
- **Methods and material for containment and cleaning up:**  
Pick up mechanically.  
Dispose of the collected material according to regulations.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Observe instructions for use.  
Prevent formation of dust.  
Any deposit of dust which cannot be avoided must be regularly removed.
- **Information about protection against explosions and fires:**  
Dust can combine with air to form an explosive mixture.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Store only in unopened original receptacles.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Observe instructions for use / storage.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**

7440-22-4 silver

PEL	Long-term value: 0.01 mg/m <sup>3</sup>
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Trade name: Miracle Mix (Alloy)

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REL Long-term value: 0.01 mg/m<sup>3</sup>TLV Long-term value: 0.1 mg/m<sup>3</sup>  
metal: dust and fume**7440-31-5 tin**PEL Long-term value: 2 mg/m<sup>3</sup>  
metalREL Long-term value: 2 mg/m<sup>3</sup>TLV Long-term value: 2 mg/m<sup>3</sup>  
metal**7440-50-8 copper**PEL Long-term value: 1\* 0.1\*\* mg/m<sup>3</sup>  
as Cu \*dusts and mists \*\*fumeREL Long-term value: 1\* 0.1\*\* mg/m<sup>3</sup>  
as Cu \*dusts and mists \*\*fumeTLV Long-term value: 1\* 0.2\*\* mg/m<sup>3</sup>  
\*dusts and mists; \*\*fume; as Cu

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.  
Do not inhale dust / smoke / mist.  
Wash hands before breaks and at the end of work.
- **Breathing equipment:** Suitable respiratory protective device recommended.
- **Protection of hands:** Protective gloves
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Safety glasses

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

- **Form:** Powder

- **Color:** Grey

- **Odor:** Characteristic

- **Odor threshold:** Not determined.

- **pH-value:** Not applicable.

- **Change in condition**

- **Melting point/Melting range:** Undetermined.

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Trade name: Miracle Mix (Alloy)

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<b>Boiling point/Boiling range:</b>	> 999 °C (> 1830 °F)
· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gaseous):</b>	Not determined.
· <b>Ignition temperature:</b>	Undetermined.
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure:</b>	Not applicable.
· <b>Density:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not applicable.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with Water:</b>	Insoluble.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
<b>Solids content:</b>	100.0 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable at ambient temperature.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:** No further relevant information available.

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Trade name: Miracle Mix (Alloy)

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- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product is not subject to classification according to internally approved calculation methods for preparations:

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

- **Carcinogenic categories' legend:**

IARC Group 1: The agent is carcinogenic to humans.

IARC Group 2A: The agent is probably carcinogenic to humans.

IARC Group 2B: The agent is possibly carcinogenic to humans.

IARC Group 3: The agent is not classifiable as to its carcinogenicity to humans.

IARC Group 4: The agent is probably not carcinogenic to humans.

NTP K: Known to be human carcinogen.

NTP R: Reasonably anticipated to be human carcinogen.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 3 (Self-assessment): extremely hazardous for water  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Smaller quantities can be disposed of with household waste.

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Trade name: Miracle Mix (Alloy)

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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |  |                 |
|--|-----------------|
| · <b>UN-Number</b>   |                 |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   | Void            |
| · <b>UN proper shipping name</b>   |                 |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   | Void            |
| · <b>Transport hazard class(es)</b>  |                 |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   |                 |
| · <b>Class</b>   | Void            |
| · <b>Packing group</b>   |                 |
| · <b>DOT, ADR, IMDG, IATA</b>  | Void            |
| · <b>Environmental hazards:</b>  |                 |
| · <b>Marine pollutant:</b>   | No              |
| · <b>Special precautions for user</b>  | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>  | -               |

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **SARA (Superfund Amendments and Reauthorization Act)**

- **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

- **Section 313 (Specific toxic chemical listings):**

silver

copper

- **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

silver

D

copper

D

- **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **GHS label elements** Void

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# Safety Data Sheet

## acc. to OSHA HCS 29 CFR 1910.1200

Printing date 02/24/2015

Version US-EN-Rev 1

Reviewed on 02/24/2015

**Trade name:** Miracle Mix (Alloy)

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- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

- **Department issuing MSDS:** Regulatory Affairs
- **Contact:**  
Regulatory Affairs  
Telephone No. +1 (708) 597-0900  
sds@gcamerica.com
- **Date of preparation / last revision** 02/24/2015 / -
- **Abbreviations and acronyms:**  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
HCS: Hazard Communication Standard (USA)  
MSDS: Material Safety Data Sheet  
SDS: Safety Data Sheet  
ECHA: European Chemicals Agency  
OSHA: Occupational Safety and Health Administration (USA)  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative
- **Sources**
  - Manufacturers' MSDSs/SDSs
  - OSHA (<https://www.osha.gov/dts/chemicalsampling/toc/chmcas.html>)
  - TOXNET (<http://toxnet.nlm.nih.gov/>)
  - ECHA (<http://echa.europa.eu/>)
  - EnviChem ([www.echemportal.org](http://www.echemportal.org))
- **Notes:**  
CAS Registry Number is a Registered Trademark of the American Chemical Society.  
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