# MATERIAL SAFETY DATA SHEET

**DATE:** June 2014

## SECTION 1 MATERIAL IDENTIFICATION

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CHEMICAL SYNONYMS</th>
<th>CHEMICAL FAMILY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iridium 192</td>
<td>Ir-192</td>
<td>Metal – not in particulate form</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MANUFACTURER</th>
<th>SUPPLIER</th>
</tr>
</thead>
</table>

## SECTION 2 HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>Activity or %</th>
<th>TLV</th>
<th>Radiation Category</th>
<th>%</th>
<th>TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gamma-Ray Energy (keV)</td>
<td>662</td>
<td>Radiological half-life</td>
<td>74 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Activity</td>
<td>~450 Ci/g</td>
<td>Effective half-life</td>
<td>110 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(12162 TBq/g)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CNSC Permitted Exposures: 20 mSv/y for Radiation Workers; 1 mSv/y for General Public

## SECTION 3 PHYSICAL DATA

| BOILING POINT: 760 mm Hg (°C) | 4130 | SOLUBILITY IN WATER, % by weight @ 25°C | insoluble |
| VAPOUR PRESSURE: 20°C (mm Hg) | N/A | SPECIFIC GRAVITY (H₂O = 1) | 22.4 |
| VAPOUR DENSITY (air = 1) | N/A | EVAPORATION RATE (butylacetate = 1) | N/A |
| pH | N/A | MELTING POINT | 2410°C |

APPEARANCE AND ODOUR: Silver white metal in a sealed source.

## SECTION 4 FIRE AND EXPLOSION HAZARD DATA

| FLASH POINT (°C); TEST METHOD | None | FLAMMABLE LIMITS | LEL | UEL |
| AUTOIGNITION TEMPERATURE (°C) | None | |
| EXTINGUISHING MEDIA | N/A | |
| SPECIAL FIREFIGHTING PROCEDURES | N/A | |
| UNUSUAL FIRE AND EXPLOSION HAZARDS | None | |

## SECTION 5 REACTIVITY DATA

| STABILITY | CONDITIONS TO AVOID | X | None |
| UNSTABLE | |

| INCOMPATIBILITY | |
| HAZARDOUS DECOMPOSITION PRODUCTS | |

| HAZARDOUS POLYMERIZATION | CONDITIONS TO AVOID | X | None |
| WILL NOT OCCUR | |

MAY OCCUR | |

N/A - Not Applicable
# Material Safety Data Sheet -

## Section 6 Health Hazard Data

### Effects of Overexposure:
- Inhalation: Will result in increased internal radiation dose
- Ingestion: Will result in increased internal radiation dose
- Eyes: Increased radiation dose
- Skin: Will result in increased radiation dose

### Emergency First Aid Procedures:
- Inhalation: Remove to fresh air and stand upwind if outside. Seek medical attention for radiation intake.
- Ingestion: Drink large volumes of water. Removed from source. Seek medical attention for radiation intake.
- Eyes: Flush open eye(s) continuously for 15 minutes with clean, running water. Remove from source. See Physician for external radiation or if irritation persists.
- Skin: Wash well with soap and water. Remove contaminated clothing. Remove from source. See Physician for external radiation or if irritation persists.

## Section 7 Special Protection Information

### Ventilation:
Wear respiratory protection and stand upwind

### Respiratory Protection:
Air purifying respirator with combination radio-nuclide cartridge, or SCBA where spill has occurred

### Protective Clothing:
Wear lead-lined aprons and gloves before handling

### Eye Protection:
- ☐ NOT NORMALLY NECESSARY
- ☐ SAFETY GLASSES WITH SIDE SHIELDS
- ☐ SAFETY GLASSES
- ☐ GASTIGHT GOGGLES OR EQUIVALENT
- ☒ CHEMICAL WORKERS GOGGLES
- ☐ OTHER

## Section 8 Special Precautions

### Precautions in Handling and Storage:
All shippers and consignees must possess radioisotope license and conform with all conditions of license.

### Other Precautions:

## Section 9 Spill or Leak Procedures

**Steps to be taken if material spilled or leaked:** Note also Section 7. If spill occurs, keep away from area. If in transport mode, call CANUTEC at (613) 996-6666 in Canada or USDOT at (202) 426-2675 in USA.

## Section 10 Waste Disposal Method:
If on site, follow instructions on site license or as directed by local Radiation Control Officer.

## Section 11 Handling and Storage:
Keep away from incompatibles such as acids, oxidizing agents, etc. Keep away from high temperatures.

## Section 12 Toxicological Information:
Routes of entry: Inhalation, ingestion. Slightly hazardous in case of skin or eye contact (irritant), or in case of ingestion or inhalation.

## Section 13 Ecological Information:
N/A

## Section 14 Disposal Considerations:
Must be disposed of in an approved radioactive material waste site

## Section 15 Transport Information:
UN2916, Radioactive Material, Type B(U) Package, Class 7. Transport must take place in accordance with all applicable regulations.

## Section 16 Regulatory Information:
Shippers must be licensed to possess. Carriers must be certified to transport.

## Section 17 Other Information:
None

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