



**Expect Service**

**Radiation Products Design Inc**

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**MATERIAL SAFETY DATA SHEET**

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**RPD INFORMATION**

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**RPD PRODUCT INFORMATION**

**RPD is an authorized distributor**

| <b>Item Number</b> | <b>Description</b>      |
|--------------------|-------------------------|
| 879-158            | 158°F Low Melting Alloy |



## MATERIAL SAFETY DATA SHEET METSPEC 158

### 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

|                     |  |
|---------------------|--|
| PRODUCT NAME        | METSPEC 158  |
| PRODUCT USE         | Base metals and alloys, industrial uses: Use of substances as such or in preparations at industrial sites.   |
| SUPPLIER            | 5N Plus Fairfield Inc<br>515 Commerce Drive<br>Fairfield,<br>Connecticut 06825<br>United States<br>+1 203-384-0331<br>+1 203-368-4082<br>msds@5nplus.com |
| EMERGENCY TELEPHONE | USA: CHEMTREC +1 800 262 8200 or 703 741 5500 (CCN - see section 16)<br>Canada: CANUTEC: +1 613 996 6666 (collect calls accepted)                        |

### 2 HAZARDS IDENTIFICATION

**EU CLASSIFICATION (1999/45)** T+;R26. T;R48/23/25. Carc. Cat. 2;R45. Muta Cat. 3;R68, Repr. Cat. 3;R62, R63. N;R50/53.

#### HUMAN HEALTH

Contains lead which can accumulate in the body. Lead is absorbed into the body through inhalation of spray mist or by ingestion.

### POTENTIAL HEALTH EFFECTS

#### GENERAL INFORMATION

Knowledge about health hazard is incomplete.

#### INHALATION

Dust may irritate throat and respiratory system and cause coughing. Vapors may irritate the respiratory system and cause coughing, asthmatic breathing and breathlessness.

#### INGESTION

May cause discomfort if swallowed. May cause stomach pain or vomiting.

#### SKIN CONTACT

Powder may irritate skin. Prolonged and frequent contact may cause redness and irritation.

#### EYE CONTACT

Particles in the eyes may cause irritation and smarting. Repeated exposure may cause chronic eye irritation.

#### HEALTH WARNINGS

Contains a substance/a group of substances which may cause cancer. Contains a substance/a group of substances with possible risk of harm to the unborn child and with possible risk of impaired fertility. Contains lead. Danger of cumulative effects (may cause damage to blood, kidneys and the nervous system).

#### ROUTE OF ENTRY

Ingestion. Skin and/or eye contact. Inhalation.

#### SPECIFIC EFFECTS

Contains lead. Danger of cumulative effects (may cause damage to blood, kidneys and the nervous system).

### 3 COMPOSITION/INFORMATION ON INGREDIENTS

| Name    | EC No.    | CAS-No.   | Weight |
|---------|-----------|-----------|--------|
| BISMUTH | 231-177-4 | 7440-69-9 | 50%    |
| LEAD    | 231-100-4 | 7439-92-1 | 26.7%  |
| TIN     | 231-141-8 | 7440-31-5 | 13%    |
| CADMIUM | 231-152-8 | 7440-43-9 | 10.3%  |

#### COMPOSITION COMMENTS

Not regarded as a health or environmental hazard in the supplied form. Please ensure that a risk assessment is carried out for your own use if processed or worked.

### 4 FIRST-AID MEASURES

## METSPEC 158

### GENERAL INFORMATION

CAUTION! First aid personnel must be aware of own risk during rescue!

### NOTES TO THE PHYSICIAN

No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!

### INHALATION

Move the exposed person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues.

### INGESTION

Immediately rinse mouth and provide fresh air. Get medical attention if any discomfort continues.

### SKIN CONTACT

Remove affected person from source of contamination. Remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention if any discomfort continues.

### EYE CONTACT

Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

## 5 FIRE-FIGHTING MEASURES

### EXTINGUISHING MEDIA

Use fire-extinguishing media appropriate for surrounding materials.

### SPECIAL FIRE FIGHTING PROCEDURES

Avoid breathing fire vapors. Fight advanced or massive fires from safe distance or protected location. The product contains a substance which is toxic to aquatic organisms and which may cause long term adverse effects in the aquatic environment. Avoid release to the environment. Dike and collect extinguishing water.

### UNUSUAL FIRE & EXPLOSION HAZARDS

Dust may form explosive mixture with air.

### SPECIFIC HAZARDS

When heated and in case of fire, harmful vapors/gases may be formed.

### PROTECTIVE MEASURES IN FIRE

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

## 6 ACCIDENTAL RELEASE MEASURES

### PERSONAL PRECAUTIONS

Avoid contact with skin and eyes. Avoid inhalation of dust and vapors. Wear protective clothing as described in Section 8 of this material safety data sheet.

### ENVIRONMENTAL PRECAUTIONS

Avoid discharge into drains, water courses or onto the ground.

### SPILL CLEAN UP METHODS

Avoid generation and spreading of dust. Should be prevented from entering drains. Collect spillage with shovel, broom or the like and reuse, if possible. Dispose of large amounts of spillage/waste according to agreement with local authorities. Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labelled container.

## 7 HANDLING AND STORAGE

### HANDLING

Avoid spilling, skin and eye contact. Avoid inhalation of dust. Mechanical ventilation or local exhaust ventilation may be required. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. Do not eat, drink or smoke when using the product. Pregnant women should not work with the product, if there is the least risk of lead exposure.

### STORAGE

Store in a cool and well-ventilated place.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

| COMPONENT | STD   | TWA (8-hrs) |             | STEL (15 min) |  | Notes     |
|-----------|-------|-------------|-------------|---------------|--|-----------|
| CADMIUM   | ACGIH |             | 0,002 mg/m3 |               |  | A2, as Cd |
| CADMIUM   | PEL   |             | 0,005 mg/m3 |               |  | as Cd     |
| LEAD      | ACGIH |             | 0,05 mg/m3  |               |  | A3, as Pb |
| TIN       | ACGIH |             | 2 mg/m3     |               |  | as Sn     |

## METSPEC 158

ACGIH=American Conference of Governmental Industrial Hygienists.

A3: Confirmed Animal Carcinogen with Unknown Relevance to Humans.

A2: Suspected Human Carcinogen.

### PROCESS CONDITIONS

Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station.

### PROTECTIVE EQUIPMENT



### ENGINEERING MEASURES

Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors.

### RESPIRATORY EQUIPMENT

If ventilation is insufficient, suitable respiratory protection must be provided.

### HAND PROTECTION

Use suitable protective gloves if risk of skin contact. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

### EYE PROTECTION

Wear approved chemical safety goggles where eye exposure is reasonably probable.

### HYGIENE MEASURES

Wash hands at the end of each work shift and before eating, smoking and using the toilet. DO NOT SMOKE IN WORK AREA! Promptly remove any clothing that becomes contaminated. Wash promptly with soap & water if skin becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke. Change work clothing daily if there is any possibility of contamination. Wash contaminated clothing before reuse.

### SKIN PROTECTION

Wear suitable protective clothing as protection against splashing or contamination.

### ENVIRONMENTAL EXPOSURE CONTROLS

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

|                    |                         |
|--------------------|-------------------------|
| APPEARANCE         | Metal or metallic Solid |
| COLOR              | Grey.                   |
| SOLUBILITY         | Insoluble in water      |
| MELTING POINT (°C) | 70                      |

## 10 STABILITY AND REACTIVITY

### STABILITY

Stable under normal temperature conditions and recommended use.

### CONDITIONS TO AVOID

Avoid excessive heat for prolonged periods of time.

### HAZARDOUS POLYMERISATION

Not relevant

### MATERIALS TO AVOID

Strong acids. Strong oxidizing substances.

### HAZARDOUS DECOMPOSITION PRODUCTS

When heated, vapors/gases hazardous to health may be formed.

## 11 TOXICOLOGICAL INFORMATION

### GENERAL INFORMATION

Knowledge about health hazard is incomplete.

### INHALATION

Dust may irritate throat and respiratory system and cause coughing. Vapors may irritate the respiratory system and cause coughing, asthmatic breathing and breathlessness.

### INGESTION

May cause discomfort if swallowed. May cause stomach pain or vomiting.

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### SKIN CONTACT

Powder may irritate skin. Prolonged and frequent contact may cause redness and irritation.

### EYE CONTACT

Particles in the eyes may cause irritation and smarting. Repeated exposure may cause chronic eye irritation.

### HEALTH WARNINGS

Contains a substance/a group of substances which may cause cancer. Contains a substance/a group of substances with possible risk of harm to the unborn child and with possible risk of impaired fertility. Contains lead. Danger of cumulative effects (may cause damage to blood, kidneys and the nervous system).

### ROUTE OF ENTRY

Ingestion. Skin and/or eye contact. Inhalation.

### SPECIFIC EFFECTS

Contains lead. Danger of cumulative effects (may cause damage to blood, kidneys and the nervous system).

#### GENERAL INFORMATION

TIN (CAS: 7440-31-5)

Knowledge about health hazard is incomplete.

#### INHALATION

NOTE! Effects may be delayed. Keep affected person under observation. Vapors may cause headache.

#### INGESTION

May cause discomfort if swallowed. May irritate and cause stomach pain, vomiting and diarrhea. May

#### SKIN CONTACT

Powder may irritate skin. Prolonged and frequent contact may cause redness and irritation.

#### EYE CONTACT

Particles in the eyes may cause irritation and smarting. Repeated exposure may cause chronic eye irrit

#### ROUTE OF ENTRY

Ingestion. Inhalation. Skin and/or eye contact.

CADMIUM (CAS: 7440-43-9)

#### TOXIC DOSE 1 - LD 50

225 mg/kg (oral rat)

#### TOXIC CONC. - LC 50

25 mg/l/4h (inh-rat)

#### TOXICOLOGICAL INFORMATION

This material is toxic.

#### GENERAL INFORMATION

Known or suspected carcinogen for humans.

#### INHALATION

Harmful: danger of serious damage to health by prolonged exposure through inhalation. Dust in high c

#### INGESTION

Toxic: danger of serious damage to health by prolonged exposure if swallowed. May cause stomach p

#### SKIN CONTACT

No specific health warnings noted.

#### EYE CONTACT

Particles in the eyes may cause irritation and smarting.

#### CARCINOGENICITY

IARC Int. Agency for Cancer Research. OSHA Carcinogen Candidate List. NTP Carcinogens (DHHS). Carcinogen Category 1. ACGIH Carcinogen List. In accordance with 3.1.1 Annex III Dir 83/467/EEC. Carcinogen Category 2. Mutagen Category 3. Teratogen Category 3.

#### ROUTE OF ENTRY

Ingestion. Inhalation.

#### TARGET ORGANS

Kidneys Respiratory system, lungs

## 12 ECOLOGICAL INFORMATION

### ECOTOXICITY

Not regarded as a health or environmental hazard in the supplied form. Please ensure that a risk assessment is carried out for your own use if processed or worked. The product contains a substance which is toxic to aquatic organisms and which may cause long term adverse effects in the aquatic environment.

### MOBILITY

The product is insoluble in water.

### BIOACCUMULATION

Bioaccumulation is unlikely to be significant because of the low water solubility of this product.

### DEGRADABILITY

The product solely consists of inorganic compounds which are not biodegradable.

### WATER HAZARD CLASSIFICATION

WGK 3

## METSPEC 158

CADMIUM (CAS: 7440-43-9)

### ECOTOXICITY

The product contains substances which are toxic to aquatic organisms and which may cause long term adverse effects in the aquatic environment.

LC 50, 96 hrs, Fish mg/l 15.5

### MOBILITY

The product is insoluble in water.

### BIOACCUMULATION

Bioaccumulation is unlikely to be significant because of the low water solubility of this product.

### DEGRADABILITY

The product solely consists of inorganic compounds which are not biodegradable.

**WATER HAZARD CLASSIFICATION** WGK 3

## 13 DISPOSAL CONSIDERATIONS

### WASTE MANAGEMENT

When handling waste, consideration should be made to the safety precautions applying to handling of the product.

### DISPOSAL METHODS

Recover and reclaim or recycle, if practical. Dispose of waste and residues in accordance with local authority requirements.

## 14 TRANSPORT INFORMATION

### TRANSPORT NOTES

The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, DOT).

No transport warning sign required.

**ENVIRONMENTALLY  
HAZARDOUS  
SUBSTANCE/MARINE  
POLLUTANT**

No.

## 15 REGULATORY INFORMATION

### INVENTORIES

| COMPONENT | CAN | US   | EU | AUS | JAP | KOR | CHN | PHLP |
|-----------|-----|------|----|-----|-----|-----|-----|------|
| BISMUTH   | DSL | Yes. |    |     |     |     |     |      |
| LEAD      | DSL | Yes. |    |     |     |     |     |      |
| TIN       | DSL | Yes. |    |     |     |     |     |      |
| CADMIUM   | DSL | Yes. |    |     |     |     |     |      |

| COMPONENT | TSCA 12(b) Export Notification |
|-----------|--------------------------------|
| BISMUTH   | No.                            |
| LEAD      | Yes.                           |
| TIN       | No.                            |
| CADMIUM   | No.                            |

### US FEDERAL REGULATIONS

| COMPONENT | SARA 302-TPQ | CERCLA-RQ      | SARA 313 |
|-----------|--------------|----------------|----------|
| BISMUTH   |              | Not Listed     | No.      |
| LEAD      |              | No RQ assigned | No.      |
| TIN       |              | Not Listed     | No.      |
| CADMIUM   |              | No RQ assigned | 0.1 %    |

## METSPEC 158

### CLEAN AIR ACT

| COMPONENT | CAA Accidental Release Prevention |
|-----------|-----------------------------------|
| BISMUTH   | Not Listed                        |
| LEAD      | Not Listed                        |
| TIN       | Not Listed                        |
| CADMIUM   | Not Listed                        |

### US STATE REGULATIONS

| COMPONENT | CAS       | CA         | FL         | MA         | MN         | NJ         | PA         | RI         |
|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|
| BISMUTH   | 7440-69-9 | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| LEAD      | 7439-92-1 | C          | Not Listed | Yes.       | Not Listed | Yes.       | Yes.       | Not Listed |
| TIN       | 7440-31-5 | Not Listed | Yes.       | Yes.       | Yes.       | Yes.       | Yes.       | Yes.       |
| CADMIUM   | 7440-43-9 | C          | Yes.       | Yes.       | Not Listed | Yes.       | Yes.       | Not Listed |

## 16 OTHER INFORMATION

### GENERAL INFORMATION

Only trained personnel should use this material.

### INFORMATION SOURCES

US-EPA Ecotox databases eChemPortal Handbook of chemistry and Physics 91st Edition, W.M. Haynes Hazardous Substance Data Bank (HSDB®) NIOSH RTECS ® databases (Registry of Toxic Effects of Chemical Substances) European Chemicals Agency (ECHA) databases

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