Expect Service

Radiation Products Design Inc

MATERIAL SAFETY DATA SHEET

RPD INFORMATION

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Website	www.rpdinc.com
Email	sales@rpdinc.com
Phone	763-497-2071 or 800-497-2071
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RPD PRODUCT INFORMATION

RPD is an authorized distributor

Item Number	Description
879-202	203°F High Melting Alloy

MATERIAL SAFETY DATA SHEET
METSPEC 203 BISMUTH, LEAD, TIN ALLOY

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

PRODUCT NAME METSPEC 203 BISMUTH, LEAD, TIN ALLOY

PRODUCT USE Base metals and alloys, industrial uses: Use of substances as such or in preparations at industrial sites

SUPPLIER
5N Plus Fairfield Inc
515 Commerce Drive
Fairfield,
Connecticut 06825
United States
+1 203-384-0331
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2 HAZARDS IDENTIFICATION

EU CLASSIFICATION (1999/45) Not classified.

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

NOTE! Effects may be delayed. Keep affected person under observation. Vapors may cause headache, fatigue, dizziness and nausea. Dust irritates the respiratory system, and may cause coughing and difficulties in breathing.

INGESTION

May cause discomfort if swallowed. May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication. Ingestion of large amounts may cause unconsciousness.

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

Warning. Contains lead. Lead is accumulated in the body and may cause damage to the brain and nervous system after prolonged exposure. Lead is absorbed into the body through inhalation of spray mist or by ingestion.

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	52.5%
LEAD	231-100-4	7439-92-1	32%
TIN	231-141-8	7440-31-5	15.5%

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

GENERAL INFORMATION

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

METSPEC 203 BISMUTH, LEAD, TIN ALLOY

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

NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions.

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

This product is not flammable. 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.

UNUSUAL FIRE & EXPLOSION HAZARDS

High concentrations of dust may form explosive mixture with air.

SPECIFIC HAZARDS

When heated and in case of fire, toxic 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

Warn everybody of potential hazards and evacuate if necessary. Avoid inhalation of dust and vapors. Avoid contact with skin and eyes. 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. Avoid spreading dust or contaminated materials.

SPILL CLEAN UP METHODS

Avoid generation and spreading of dust. Should be prevented from entering drains. Remove spillage with vacuum cleaner. If not possible, collect spillage with shovel, broom or the like. Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labelled container. For waste disposal, see section 13.

7 HANDLING AND STORAGE

HANDLING

Pregnant women should not work with the product, if there is the least risk of lead exposure. Avoid handling which leads to dust formation. Avoid inhalation of dust and contact with skin and eyes. Avoid excessive heat for prolonged periods of time. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. Change work clothing daily before leaving work place. Wash contaminated clothing before reuse.

STORAGE

Store in a cool and well-ventilated place.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENT	STD	TWA (8-hrs)		STEL (15 min)		Notes
LEAD	ACGIH		0,05 mg/m3			A3, as Pb
TIN	ACGIH		2 mg/m3			as Sn

ACGIH=American Conference of Governmental Industrial Hygienists.
A3: Confirmed Animal Carcinogen with Unknown Relevance to Humans.

PROCESS CONDITIONS

Provide eyewash station.

PROTECTIVE EQUIPMENT

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ENGINEERING MEASURES

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

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

Use approved safety goggles or face shield.

HYGIENE MEASURES

DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. 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	Silver. - White.
ODOR	Odorless.
SOLUBILITY	Insoluble in water
MELTING POINT (°C)	203˚F
RELATIVE DENSITY	9.0

10 STABILITY AND REACTIVITY

STABILITY

Stable under normal temperature conditions.

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

NOTE! Effects may be delayed. Keep affected person under observation. Vapors may cause headache, fatigue, dizziness and nausea. Dust irritates the respiratory system, and may cause coughing and difficulties in breathing.

INGESTION

May cause discomfort if swallowed. May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication. Ingestion of large amounts may cause unconsciousness.

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.

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HEALTH WARNINGS

Warning. Contains lead. Lead is accumulated in the body and may cause damage to the brain and nervous system after prolonged exposure. Lead is absorbed into the body through inhalation of spray mist or by ingestion.

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).

BISMUTH (CAS: 7440-69-9)

TOXIC DOSE 1 - LD 50	2000 mg/kg (oral rat)
GENERAL INFORMATION	Knowledge about health hazard is incomplete.
INHALATION	Dust in high concentrations may irritate the respiratory system.
INGESTION	May cause discomfort if swallowed.
SKIN CONTACT	Powder may irritate skin.
EYE CONTACT	Particles in the eyes may cause irritation and smarting.
ROUTE OF ENTRY	Ingestion. Skin and/or eye contact. Inhalation.
TARGET ORGANS	No specific target organs noted

TIN (CAS: 7440-31-5)

GENERAL INFORMATION	No specific health warnings noted.
INHALATION	Dust in high concentrations may irritate the respiratory system.
INGESTION	May cause discomfort if swallowed.
SKIN CONTACT	Powder may irritate skin.
EYE CONTACT	Particles in the eyes may cause irritation and smarting.
ROUTE OF ENTRY	Ingestion. Skin and/or eye contact. Inhalation.

12 ECOLOGICAL INFORMATION

ECOTOXICITY

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the 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 1

BISMUTH (CAS: 7440-69-9)

ECOTOXICITY

Not regarded as dangerous for the environment.

LC 50, 96 hrs, Fish mg/l	>100
EC 50, 48 hrs, Daphnia, mg/l	>100

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.

ACUTE FISH TOXICITY

Not considered toxic to fish.

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

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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.						

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

CLEAN AIR ACT

COMPONENT	CAA Accidental Release Prevention
BISMUTH	Not Listed
LEAD	Not Listed
TIN	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.

16 OTHER INFORMATION

INFORMATION SOURCES

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