



DEFENSE LOGISTICS AGENCY
DEFENSE NATIONAL STOCKPILE CENTER
8725 JOHN J. KINGMAN ROAD, SUITE 4616
FT. BELVOIR, VIRGINIA 22060-6223

IN REPLY

December 18, 2001

AMENDMENT NO. 004
TO
SOLICITATION OF OFFERS FOR
ANTIMONY
UNDER
DLA-ANTIMONY-002

The above referenced Solicitation for the sale of Antimony is hereby amended to offer Fiscal Year (FY) 2002 quantities of material for sale, to update the listing of material available for sale, update the item offer page, to announce the first offering date in FY 2002 and to add additional clauses.

1. Amendment Nos. 002 and 003 to the subject solicitation no longer apply and are hereby deleted in their entirety.
2. **Delete:** Section A.1 and replace it with the following:

a. The Defense Logistics Agency (DLA) is soliciting offers for the sale of approximately 5,000 short ton (ST) of contained Antimony in Fiscal Year (FY) 2002. The initial FY 2002 offering will be held on **January 10, 2001** at 1:00 PM, local time, Ft. Belvoir, VA. If all material is not sold, subsequent offerings will be held on the first Thursday of each month until all material is sold. Offers must be received at the address in Section B.2.a by 1:00 PM, local time, Ft. Belvoir, VA. In the event a day scheduled for receipt of offers is a holiday or DNSC is otherwise closed at the time set for opening of offers, offers for that day will be received at 1:00 PM, local time, Ft. Belvoir, VA on the next DNSC business day.

3. **Add paragraph:** A.3 Foreign Trade Statistics Regulations (MAY 2001)

1. The Contractor shall determine any export license requirements, obtain any export license or other official authorization required for export, and carry out any U.S. Customs formalities for the export of any material awarded under this Solicitation.

2. The Contractor shall comply with United States Bureau of Export Administration Foreign Trade Statistics and Export Administration Regulations as set forth in 15 CFR Parts 30 and 732 (as amended by 65 FR 42556-42575, July 10, 2000 or any subsequent rule making).

3. If the Contractor is not a United States domestic entity or does not have a physical presence in the United States, and the material is to be exported, the Contractor shall either --

- a. Engage a United States forwarding agent or other agent in accordance with 15 CFR 30.4(a) and (c); or
- b. Engage a United States Order Party, in accordance with 15 CFR 30.4(a)(1)(iii), to conduct all negotiations, correspondence, and arrangements for sale, and to arrange for export of the material purchased.

4. The Defense National Stockpile Center shall not be named as the United States Principal Party in Interest and will not execute the Shipper's Export Declaration required by the Foreign Trade Statistics regulations.
4. The above referenced solicitation is hereby amended to revise Section G.2 Title (OCT 2001) as follows:
- Delete:** "Title to the material shall pass to the Contractor upon execution of the contract"...
- Insert:** "Title to the material shall pass to the Contractor upon payment or shipment of material, whichever comes first"...
5. The attached Section **I.2 ITEM OFFER PAGES – DLA-ANTIMONY-002 (OCT 00)** replaces Section **I.2 ITEM OFFER PAGES – DLA-ANTIMONY-002 (OCT 01)** with an updated listing of material available for sale. All references in the Solicitation to Section I.2 are hereby updated accordingly.
6. Delete: Section J.4 **MATERIAL SAFETY DATA SHEET (JUN 99)** and insert attached Section J.4 **MATERIAL SAFETY DATA SHEET (NOV 01)**
7. Offerors shall acknowledge receipt of this Amendment by signing in the space provided below and returning this form to the following address: Offerors may also submit this form to DNSC-C via facsimile at (703) 767-5541.

**Defense National Stockpile Center
ATTN: Bid Custodian (DNSC-L)
8725 John J. Kingman Road
Suite 4616 (Mail) or Suite 4528 (Hand Delivered)
Fort Belvoir, VA 22060-6223**

Failure to acknowledge receipt of this Amendment may result in the Offeror being ineligible for award.

Except as provided herein, all other terms and conditions of DLA-ANTIMONY-002 remain unchanged and in full force and effect.

Name of Firm: _____

Address: _____

Signature: _____

Title: _____

Date: _____

<i>ITEM</i>	<i>DESCRIPTION</i>	<i>UNIT WEIGHT LBS/BUNDLE BOX</i>	<i>QUANTITY LBS</i>	<i>LOCATION</i>	<i>QUANTITY LBS</i>	<i>PRICE LBS.</i>	<i>TOTAL OFFERED PRICE</i>
29	<i>Antimony Ingots, Grade B in wooden boxes. Brand - Unknown Ingots - Grade A 6 Wooden Boxes</i>	<i>246 lbs/ Box</i>	<i>1,060,800</i>	<i>Somerville, NJ</i>	<hr/>	<i>\$</i> <hr/>	<i>\$</i> <hr/>
35	<i>Antimony Ingots, Grade B Banded - 29 Ingots/Bundle Brand - RMM. 255 Drums Broken Ingots - Mixed Brands</i>	<i>1740 Lbs/ Bundle 283 Lbs/Drum</i>	<i>3,539,215</i>	<i>New Haven, IN</i>	<hr/>	<i>\$</i> <hr/>	<i>\$</i> <hr/>
36	<i>Antimony Cakes, Grade B Wooden Kegs - Brand Unknown Broken Pieces - Grade A&B Grade A - Drum Brands - Unknown</i>	<i>534 Lbs/ Kegs</i>	<i>2,131,502</i>	<i>Somerville, NJ</i>	<hr/>	<i>\$</i> <hr/>	<i>\$</i> <hr/>

COMPANY:

NAME AND TITLE:

SIGNATURE AND DATE:

TELEPHONE NUMBER:

FAX NUMBER:

J.1 Antimony Grade B Cakes Clearfield Analytical Data

Lot #	Sn %	As %	Se %	Pb %	Bi %	Cu %	Ni %	Fe %	Ag %	Te %	S %	Sb %
26	<0.005	0.076	<0.005	0.19	<0.005	0.078	0.014	0.004	0.032	<0.002	0.06	99.54
27	<0.005	0.077	<0.005	0.26	<0.005	0.073	0.015	0.007	0.035	0.002	0.06	99.47
28	<0.005	0.084	<0.005	0.26	<0.005	0.065	0.015	0.006	0.029	0.002	0.06	99.47
29	<0.005	0.076	<0.005	0.28	<0.005	0.068	0.016	0.013	0.036	0.002	0.08	99.42
30	<0.005	0.076	<0.005	0.25	<0.005	0.038	0.014	0.016	0.023	0.003	0.09	99.48
31	<0.005	0.083	<0.005	0.27	<0.005	0.020	0.015	0.005	0.021	0.002	0.08	99.50
32	<0.005	0.083	<0.005	0.22	<0.005	0.056	0.014	0.005	0.029	0.003	0.06	99.52
33	<0.005	0.079	<0.005	0.29	<0.005	0.025	0.015	0.005	0.023	0.004	0.08	99.47
34	<0.005	0.080	<0.005	0.24	<0.005	0.086	0.017	0.005	0.040	0.002	0.07	99.45
35	<0.005	0.076	<0.005	0.20	<0.005	0.071	0.017	0.012	0.034	<0.002	0.06	99.52
36	<0.005	0.079	<0.005	0.23	<0.005	0.092	0.016	0.007	0.039	0.002	0.06	99.47
37	<0.005	0.079	<0.005	0.22	<0.005	0.056	0.016	0.006	0.029	<0.002	0.06	99.53
38	<0.005	0.087	<0.005	0.35	<0.005	0.069	0.027	0.013	0.042	0.006	0.06	99.34
39	<0.005	0.087	<0.005	0.22	<0.005	0.053	0.015	0.005	0.030	0.002	0.07	99.51
40	<0.005	0.077	<0.005	0.25	<0.005	0.035	0.015	0.006	0.020	0.003	0.07	99.52
41	<0.005	0.066	<0.005	0.25	<0.005	0.053	0.031	0.006	0.021	<0.002	0.06	99.51

This analysis data included in this Subsection J.1 is for *informational purpose only*. See Subsection A.2., paragraph b.

J.1 Antimony Grade B Cakes Clearfield Analytical Data

Lot #	Sn %	As %	Se %	Pb %	Bi %	Cu %	Ni %	Fe %	Ag %	Te %	S %	Sb %
42	<0.005	0.066	<0.005	0.26	<0.005	0.032	0.015	0.006	0.028	0.002	0.08	99.51
43	<0.005	0.079	<0.005	0.24	<0.005	0.092	0.015	0.006	0.038	<0.002	0.06	99.46
44	<0.005	0.071	<0.005	0.24	<0.005	0.047	0.014	0.005	0.029	0.003	0.06	99.53
45	<0.005	0.073	<0.005	0.23	<0.005	0.034	0.014	0.006	0.021	0.003	0.06	99.55
46	<0.005	0.070	<0.005	0.26	<0.005	0.084	0.026	0.005	0.046	<0.002	0.06	99.44
47	<0.005	0.068	<0.005	0.24	<0.005	0.056	0.021	0.004	0.025	<0.002	0.05	99.53
48	<0.005	0.071	<0.005	0.32	<0.005	0.090	0.021	0.004	0.044	<0.002	0.05	99.39
49	<0.005	0.073	<0.005	0.25	<0.005	0.088	0.022	0.005	0.035	<0.002	0.06	99.46
50	<0.005	0.071	<0.005	0.32	<0.005	0.047	0.021	0.007	0.034	0.002	0.06	99.43
51	<0.005	0.066	<0.005	0.30	<0.005	0.048	0.020	0.004	0.030	0.004	0.07	99.45
54	<0.005	0.070	<0.005	0.28	<0.005	0.032	0.020	0.004	0.024	0.002	0.07	99.49
55	<0.005	0.069	<0.005	0.26	<0.005	0.036	0.022	0.004	0.022	<0.002	0.07	99.51
56	0.007	0.089	<0.005	0.27	<0.005	0.089	0.020	0.004	0.039	<0.002	0.12	99.36
57	<0.005	0.053	<0.005	0.30	<0.005	0.032	0.019	0.004	0.025	<0.002	0.06	99.50
58	0.008	0.063	<0.005	0.22	<0.005	0.042	0.018	0.005	0.028	0.005	0.09	99.52
59	<0.005	0.059	<0.005	0.23	<0.005	0.054	0.018	0.003	0.048	<0.002	0.05	99.53

This analysis data included in this Subsection J.1 is for *informational purpose only*. See Subsection A.2., paragraph b.

J.1 Antimony Grade B Cakes Clearfield Analytical Data

Lot #	Sn %	As %	Se %	Pb %	Bi %	Cu %	Ni %	Fe %	Ag %	Te %	S %	Sb %
60	<0.005	0.062	<0.005	0.22	<0.005	0.050	0.019	0.004	0.030	0.006	0.07	99.53
61	<0.005	0.065	<0.005	0.21	<0.005	0.071	0.018	0.004	0.037	0.002	0.06	99.53
62	<0.005	0.063	<0.005	0.22	<0.005	0.052	0.019	0.004	0.031	0.004	0.07	99.53
63	<0.005	0.056	<0.005	0.20	<0.005	0.055	0.019	0.007	0.031	0.002	0.05	99.57
64	<0.005	0.063	<0.005	0.23	<0.005	0.060	0.020	0.004	0.032	0.003	0.06	99.52
70	<0.005	0.061	<0.005	0.25	0.005	0.033	0.018	0.004	0.026	0.003	0.07	99.52
71	<0.005	0.065	<0.005	0.23	<0.005	0.067	0.020	0.007	0.037	0.003	0.06	99.50
72	<0.005	0.060	<0.005	0.21	0.005	0.039	0.021	0.004	0.029	0.002	0.06	99.56
75	<0.005	0.015	<0.005	0.25	0.013	0.047	0.012	0.003	0.043	<0.002	0.07	99.54
78	<0.005	0.017	<0.005	0.17	0.014	0.066	0.012	0.008	0.037	<0.002	0.07	99.60
83	<0.005	0.060	<0.005	0.20	0.013	0.078	0.015	0.009	0.035	<0.002	0.07	99.51
84	<0.005	0.064	<0.005	0.25	0.014	0.037	0.015	0.003	0.028	0.002	0.08	99.50
89	<0.005	0.069	<0.005	0.23	0.013	0.037	0.015	0.005	0.030	0.002	0.08	99.51
91	<0.005	0.064	<0.005	0.22	0.013	0.039	0.015	0.004	0.031	<0.002	0.06	99.54
92	<0.005	0.060	<0.005	0.26	0.013	0.066	0.017	0.004	0.046	0.002	0.06	99.47
93	<0.005	0.066	<0.005	0.27	0.014	0.060	0.016	0.007	0.041	0.002	0.06	99.46

This analysis data included in this Subsection J.1 is for *informational purpose only*. See Subsection A.2., paragraph b.

J.1 Antimony Grade B Cakes Clearfield Analytical Data

Lot #	Sn %	As %	Se %	Pb %	Bi %	Cu %	Ni %	Fe %	Ag %	Te %	S %	Sb %
94	<0.005	0.048	<0.005	0.20	0.018	0.066	0.016	0.004	0.036	<0.002	0.07	99.53
95	<0.005	0.009	<0.005	0.18	0.014	0.056	0.011	0.003	0.041	<0.002	0.06	99.61
96	<0.005	0.059	<0.005	0.22	0.014	0.028	0.016	0.004	0.025	<0.002	0.07	99.56
97	<0.005	0.051	<0.005	0.25	0.015	0.050	0.015	0.003	0.035	0.002	0.06	99.51
98	<0.005	0.060	<0.005	0.27	0.015	0.053	0.015	0.003	0.040	0.002	0.06	99.47
99	<0.005	0.060	<0.005	0.20	0.014	0.045	0.016	0.003	0.033	<0.002	0.06	99.56
100	<0.005	0.063	<0.005	0.23	0.013	0.037	0.015	0.004	0.032	0.002	0.07	99.53
101	<0.005	0.062	<0.005	0.19	0.013	0.062	0.015	0.004	0.041	0.002	0.06	99.54
102	<0.005	0.052	<0.005	0.28	0.012	0.033	0.015	0.003	0.028	<0.002	0.06	99.51
103	<0.005	0.062	<0.005	0.22	0.014	0.070	0.016	0.002	0.040	<0.002	0.07	99.50
104	<0.005	0.057	<0.005	0.19	0.014	0.019	0.015	0.002	0.021	<0.002	0.07	99.60
105	<0.005	0.059	<0.005	0.25	0.012	0.068	0.015	0.002	0.037	<0.002	0.07	99.48
106	<0.005	0.061	<0.005	0.21	<0.005	0.070	0.013	0.003	0.036	<0.002	0.05	99.55
107	<0.005	0.052	<0.005	0.36	<0.005	0.049	0.014	0.005	0.030	<0.002	0.05	99.43
108	<0.005	0.063	<0.005	0.24	<0.005	0.053	0.014	0.003	0.032	0.004	0.06	99.52
109	<0.005	0.067	<0.005	0.29	<0.005	0.078	0.014	0.003	0.035	<0.002	0.06	99.44

This analysis data included in this Subsection J.1 is for *informational purpose only*. See Subsection A.2., paragraph b.

J.1 Antimony Grade B Cakes Clearfield Analytical Data

Lot #	Sn %	As %	Se %	Pb %	Bi %	Cu %	Ni %	Fe %	Ag %	Te %	S %	Sb %
110	<0.005	0.063	<0.005	0.23	<0.005	0.058	0.013	0.004	0.037	0.002	0.05	99.53
111	<0.005	0.067	<0.005	0.22	<0.005	0.041	0.016	0.004	0.033	0.003	0.06	99.55
112	<0.005	0.064	<0.005	0.23	<0.005	0.046	0.016	0.004	0.026	0.003	0.07	99.53
113	<0.005	0.063	<0.005	0.20	<0.005	0.052	0.015	0.005	0.032	<0.002	0.06	99.56
114	<0.005	0.064	<0.005	0.21	<0.005	0.045	0.015	0.003	0.033	<0.002	0.06	99.56
115	<0.005	0.064	<0.005	0.23	<0.005	0.066	0.017	0.003	0.042	0.002	0.07	99.50
116	<0.005	0.071	<0.005	0.19	<0.005	0.071	0.016	0.005	0.036	0.002	0.07	99.53
117	<0.005	0.070	<0.005	0.20	<0.005	0.057	0.019	0.004	0.033	<0.002	0.07	99.54
118	<0.005	0.064	<0.005	0.19	<0.005	0.042	0.015	0.004	0.033	0.002	0.06	99.58
119	<0.005	0.060	<0.005	0.25	<0.005	0.068	0.015	0.006	0.040	0.004	0.07	99.48
120	<0.005	0.059	<0.005	0.21	<0.005	0.050	0.015	0.003	0.029	0.002	0.06	99.56
121	<0.005	0.062	<0.005	0.36	<0.005	0.066	0.015	0.005	0.035	<0.002	0.06	99.39
122	<0.005	0.066	<0.005	0.17	<0.005	0.049	0.015	0.005	0.032	<0.002	0.06	99.59
123	<0.005	0.056	<0.005	0.14	<0.005	0.060	0.014	0.003	0.034	<0.002	0.06	99.62
124	<0.005	0.047	<0.005	0.19	<0.005	0.039	0.015	0.003	0.031	<0.002	0.06	99.61

This analysis data included in this Subsection J.1 is for *informational purpose only*. See Subsection A.2., paragraph b.

J.1 Antimony Grade B Cakes Clearfield Analytical Data

Lot #	Sn %	As %	Se %	Pb %	Bi %	Cu %	Ni %	Fe %	Ag %	Te %	S %	Sb %
125	<0.005	0.055	<0.005	0.20	<0.005	0.051	0.015	0.004	0.033	0.002	0.06	99.57
126	<0.005	0.062	<0.005	0.17	<0.005	0.048	0.027	0.007	0.032	<0.002	0.05	99.60
127	<0.005	0.063	<0.005	0.15	<0.005	0.078	0.031	0.003	0.035	<0.002	0.05	99.58
128	<0.005	0.068	<0.005	0.21	<0.005	0.062	0.034	0.012	0.043	0.003	0.05	99.51
129	<0.005	0.050	<0.005	0.16	<0.005	0.046	0.016	0.004	0.032	<0.002	0.05	99.63
130	<0.005	0.058	<0.005	0.16	<0.005	0.052	0.016	0.008	0.066	<0.002	0.05	99.58
131	<0.005	0.070	<0.005	0.19	<0.005	0.074	0.016	0.007	0.048	0.003	0.06	99.52
132	<0.005	0.064	<0.005	0.18	0.005	0.098	0.017	0.008	0.045	<0.002	0.05	99.53

This analysis data included in this Subsection J.1 is for *informational purpose only*. See Subsection A.2., paragraph b.

<i>ITEM</i>	<i>DESCRIPTION</i>	<i>UNIT WEIGHT LBS/BUNDLE BOX</i>	<i>QUANTITY LBS</i>	<i>LOCATION</i>	<i>QUANTITY LBS</i>	<i>PRICE LBS.</i>	<i>TOTAL OFFERED PRICE</i>
5	Antimony Cakes, Grade B Banded - 38 Cakes/Bundle Brand "H" - Drums- Broken Cakes - Brand "H"	Approx 42,400 lbs./ Bundle	3,571,632	Clearfield, UT	_____	\$ _____	\$ _____

COMPANY: _____

NAME AND TITLE: _____

SIGNATURE AND DATE: _____

TELEPHONE NUMBER: _____

FAX NUMBER: _____

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

DEFENSE LOGISTICS AGENCY
DEFENSE NATIONAL STOCKPILE CENTER
8725 JOHN J. KINGMAN ROAD
SUITE 3339
FORT BELVOIR, VA 22060-6223

EMERGENCY TELEPHONE NUMBER:
1-800-424-9300 (NORTH AMERICA)
1-703-527-3887 (INTERNATIONAL)

SUBSTANCE: ANTIMONY

TRADE NAMES/SYNONYMS:
ANTIMONY BLACK; ANTIMONY REGULUS; STIBIUM; ANTIMONY ELEMENT; C.I. 77050; Sb;
DLA01611; RTECS CC4025000

CHEMICAL FAMILY: metal

CREATION DATE: Mar 14 1995
REVISION DATE: Jun 01 2000

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: ANTIMONY
CAS NUMBER: 7440-36-0
EC NUMBER (EINECS): 231-146-5
PERCENTAGE: 100.0

SECTION 3 HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=0 REACTIVITY=0

EC CLASSIFICATION (CALCULATED):

Xi Irritant

R 36-37-38

EMERGENCY OVERVIEW:

PHYSICAL DESCRIPTION: Silvery-white lustrous metal in pig, ingot or tub form.

MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation

PHYSICAL HAZARDS: Dust/air mixtures may ignite or explode.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation, metallic taste, nausea, vomiting, diarrhea, headache, dizziness

LONG TERM EXPOSURE: loss of voice, difficulty breathing, lung damage

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation, itching

LONG TERM EXPOSURE: rash

EYE CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: same as effects reported in short term exposure

INGESTION:

SHORT TERM EXPOSURE: nausea, vomiting, diarrhea, liver damage, coma

LONG TERM EXPOSURE: loss of voice, headache, dizziness

CARCINOGEN STATUS:

OSHA: N

NTP: N

IARC: N

SECTION 4 FIRST AID MEASURES

INHALATION: Remove from exposure immediately. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention.

SKIN CONTACT: Remove contaminated clothing, jewelry, and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention, if needed.

EYE CONTACT: Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. Get medical attention immediately.

INGESTION: Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

ANTIDOTE: dimercaprol/oil, intramuscular.

NOTE TO PHYSICIAN: For ingestion, consider gastric lavage and catharsis.

SECTION 5 FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire and explosion hazard in bulk form. Dust/air mixtures may ignite or explode.

EXTINGUISHING MEDIA: dolomite, dry powder for metal fires, sand, graphite, soda ash, sodium chloride

Do not get water directly on material.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep

burn. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products.

LOWER FLAMMABLE LIMIT: 0.42 oz/ft³

SECTION 6 ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:

Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

SECTION 7 HANDLING AND STORAGE

Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

ANTIMONY:

- 0.5 mg/m³ OSHA TWA
- 0.5 mg/m³ ACGIH TWA
- 0.5 mg(Sb)/m³ NIOSH recommended TWA 10 hour(s)
- 0.5 mg/m³ DFG MAK (peak limitation category-III) (inhalable dust fraction)
- 0.5 mg(Sb)/m³ UK MEL TWA

MEASUREMENT METHOD: Particulate filter; Acid; Atomic absorption spectrometry; NIOSH II(4) # 261, P&CAM

VENTILATION: Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Eye protection not required under normal conditions.

CLOTHING: Protective clothing is not required under normal conditions.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: No respirator is required under normal conditions of use. Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

Measurement Element:

Antimony (Sb)

5 mg/m³

Any dust and mist respirator.

Any supplied-air respirator.

Any supplied-air respirator.
 Any powered, air-purifying respirator with a dust and mist filter.

25 mg/m3
 Any air-purifying respirator with a full facepiece and a high-efficiency particulate filter.
 Any supplied-air respirator with a full facepiece.
 Any self-contained breathing apparatus with a full facepiece.
 Any supplied-air respirator with a full facepiece.

50 mg/m3
 Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode.

Escape -
 Any air-purifying respirator with a full facepiece and a high-efficiency particulate filter.
 Any appropriate escape-type, self-contained breathing apparatus.

For Unknown Concentrations or Immediately Dangerous to Life or Health -
 Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.
 Any self-contained breathing apparatus with a full facepiece.

 SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION: Silvery-white lustrous metal in pig, ingot or tub form.
 MOLECULAR WEIGHT: 121.75
 MOLECULAR FORMULA: SB
 BOILING POINT: 3182 F (1750 C)
 MELTING POINT: 1166 F (630 C)
 VAPOR PRESSURE: 1 mmHg @ 886 C
 VAPOR DENSITY: Not applicable
 SPECIFIC GRAVITY (water=1): 6.684
 WATER SOLUBILITY: insoluble
 PH: Not applicable
 VOLATILITY: Not applicable
 ODOR THRESHOLD: Not available
 EVAPORATION RATE: Not applicable
 COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available
 SOLVENT SOLUBILITY:
 Soluble: ammonium sulfide solutions, hot sulfuric acid

 SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.
 CONDITIONS TO AVOID: None reported.
 INCOMPATIBILITIES: acids, oxidizing materials, metals, halogens, combustible materials, peroxides, metal oxides, bases, metal salts
 ANTIMONY:

ALKALINE NITRATES: Explosive reaction possible.
ALUMINUM (POWDERED): Violent reaction on heating.
AMMONIUM NITRATE: Explosive reaction with powdered antimony.
AQUA REGIA: Readily attacks antimony.
BROMINE: Spontaneous ignition.
BROMINE PENTAFLUORIDE: Contact at ambient or slightly elevated temperatures may result in violent ignition.
BROMINE TRIFLUORIDE: Violent reaction with incandescence.
BROMOAZIDE: Explosion on contact.
CHLORIC ACID: Forms explosive compound.
CHLORINE (GAS): Spontaneous ignition.
CHLORINE (LIQUID): Spontaneous ignition at 33 C.
CHLORINE MONOXIDE (GAS): Violent explosion on contact.
CHLORINE TRIFLUORIDE: Contact at ambient or slightly elevated temperatures may result in violent ignition.
DICHLORINE OXIDE: Explosion on contact.
DISULFUR DIBROMIDE: Violent reaction with finely divided antimony.
FLUORINE: Spontaneous ignition.
HALOGENATED ACIDS: Incompatible.
IODINE: Ignition reaction; large amounts may result in explosion.
IODINE PENTAFLUORIDE: Incandescent reaction.
NITRATE SALTS: Vigorous or violent reaction.
NITRIC ACID: Violent reaction with finely divided antimony.
NITROSYL FLUORIDE: Incandescent reaction.
OXIDIZERS: Fire and explosion hazard.
PERCHLORIC ACID: Hazardous reaction with trivalent antimony.
PEROXIDES (MIXTURES): May react explosively.
POTASSIUM DIOXIDE: Oxidation reaction with incandescence.
POTASSIUM NITRATE: Explosive reaction with powdered antimony.
POTASSIUM PERMANGANATE: Ignites on grinding in mortar.
POTASSIUM PEROXIDE: Formation of explosive mixture.
SELENINYL CHLORIDE: Ignition on contact with powdered antimony.
SODIUM NITRATE: Explosive reaction with powdered antimony.
SODIUM PEROXIDE: Formation of explosive mixture on heating.
SULFURIC ACID: Readily attacked.

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: antimony compounds, antimony

POLYMERIZATION: Will not polymerize.

SECTION 11 TOXICOLOGICAL INFORMATION

ANTIMONY:

TOXICITY DATA:

7 gm/kg oral-rat LD50; 100 mg/kg intraperitoneal-rat LD50; 90 mg/kg intraperitoneal-mouse LD50; 150 mg/kg intraperitoneal-guinea pig LD50

LOCAL EFFECTS:

Irritant: inhalation, skin, eye

ACUTE TOXICITY LEVEL:

Slightly Toxic: ingestion

50 mg/m³ inhalation-rat TCl_o/7 hour(s)-52 week(s) intermittent

HEALTH EFFECTS:

INHALATION:

ACUTE EXPOSURE:

ANTIMONY: Inhalation of antimony or its compounds may cause irritation of the respiratory and gastrointestinal tracts, sore throat, shallow respiration, dizziness, weight loss, gingivitis, anemia, eosinophilia, and inhibition of some enzyme systems, such as protein or carbohydrate metabolism. Pulmonary congestion, edema and death due to respiratory or circulatory failure may occur. Pathologic findings include acute congestion of the heart, liver, and kidneys. Metal fume fever, an influenza-like illness, may occur due to the inhalation of freshly formed fumes sized below 1.5 microns and usually between 0.02-0.05 microns. Symptoms may be delayed 4-12 hours and begin with a sudden onset of thirst and a sweet, metallic or foul taste in the mouth. Other symptoms may include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes, lassitude, and a generalized feeling of malaise. Fever, chills, muscular pain, mild to severe headache, nausea, occasional vomiting, exaggerated mental activity, profuse sweating, excessive urination, diarrhea, and prostration may also occur. Tolerance to fumes develops rapidly, but is quickly lost. All symptoms usually subside within 24-36 hours.

CHRONIC EXPOSURE:

ANTIMONY: Repeated or prolonged inhalation of antimony or its compounds may cause stomatitis, dry throat, metallic taste, gingivitis, septal and laryngeal perforation, laryngitis, headache, dyspnea, indigestion, nausea, vomiting, diarrhea, anorexia, anemia, weight loss, pain or tightness in the chest, sleeplessness, muscular pain and weakness, dizziness, pharyngitis, bronchitis, and pneumonitis. Degenerative changes of the liver and kidneys may occur later. Benign pneumoconiosis and obstructive lung diseases has been reported in workers. Women may be more susceptible to the systemic effects of exposure. Antimony crosses the placenta, is present in amniotic fluid, and is excreted in human milk. A study reported an increased incidence of spontaneous late abortions, premature births, and gynecological problems among female antimony smelter workers. An excess of deaths from lung cancer has been reported in smelter workers with more than 7 years exposure to relatively high levels of antimony dust and fumes. Animal studies indicate that antimony dust causes pathological changes in cardiac muscle and may induce interstitial pneumonitis and endogenous lipid pneumonia. As evaluated by RTECS, administration to rats by inhalation resulted in a statistically significant increase in the incidence of carcinogenic tumors of the lungs and thorax.

SKIN CONTACT:

ACUTE EXPOSURE:

ANTIMONY: Direct contact with dusts from antimony or its compounds may cause irritation with itching.

CHRONIC EXPOSURE:

ANTIMONY: Repeated or prolonged contact with antimony or its compounds may cause itching skin, papules and pustules around sweat and sebaceous glands, but rarely around the face, and dermatitis. Prolonged exposure by

resembling chicken pox pustules.

EYE CONTACT:

ACUTE EXPOSURE:

ANTIMONY: Direct contact with dust or fumes may cause irritation and inflammation of the cornea.

CHRONIC EXPOSURE:

ANTIMONY: Repeated or prolonged exposure may cause conjunctivitis.

INGESTION:

ACUTE EXPOSURE:

ANTIMONY: Ingestion of antimony or its compounds may cause violent irritation of the nose, throat, stomach, and intestines, nausea, vomiting, severe diarrhea with mucous and later with blood, slow and shallow respiration, and low blood pressure. Hemorrhagic nephritis and hepatitis may occur concomitantly or follow later. Pulmonary congestion and edema, coma, and death from circulatory or respiratory failure may occur.

CHRONIC EXPOSURE:

ANTIMONY: Repeated or prolonged ingestion of antimony or its compounds may cause sores in the mouth and throat, dry throat, gingivitis, laryngitis, headache, indigestion, nausea, vomiting, diarrhea, anorexia, anemia, weight loss, sleeplessness, and dizziness. Degenerative liver and kidney changes may occur later. Women may be more susceptible to the systemic effects from antimony exposure. Antimony crosses the placenta, is present in amniotic fluid, and is excreted in human milk.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

FISH TOXICITY: >6200 - <8300 ug/L 96 hour(s) LC50 (Mortality) Sheepshead minnow (Cyprinodon variegatus)

INVERTEBRATE TOXICITY: >4150 ug/L 96 hour(s) LC50 (Mortality) Opossum shrimp (Mysidopsis bahia)

ALGAL TOXICITY: >4150 ug/L 96 hour(s) EC50 (Photosynthesis) Diatom (Skeletonema costatum)

FATE AND TRANSPORT:

BIOCONCENTRATION: 14.00 uCi/L NR month(s) BCF (Residue) Toothed wrack (Fucus serratus) 2 uCi/L

ENVIRONMENTAL SUMMARY:

Toxic to aquatic life.

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

SECTION 14 TRANSPORT INFORMATION

No classification assigned.

LAND TRANSPORT ADR/RID: No classification assigned.

AIR TRANSPORT IATA/ICAO: No classification assigned.

MARITIME TRANSPORT IMDG: No classification assigned.

SECTION 15 REGULATORY INFORMATION

U.S. REGULATIONS:

TSCA INVENTORY STATUS: Y

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CERCLA SECTION 103 (40CFR302.4): Y

ANTIMONY: 5000 LBS RQ

SARA SECTION 302 (40CFR355.30): N

SARA SECTION 304 (40CFR355.40): N

SARA SECTION 313 (40CFR372.65): Y

ANTIMONY

SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21):

ACUTE: Y

CHRONIC: N

FIRE: N

REACTIVE: N

SUDDEN RELEASE: N

OSHA PROCESS SAFETY (29CFR1910.119): N

STATE REGULATIONS:

California Proposition 65: N

EUROPEAN REGULATIONS:

EC NUMBER (EINECS): 231-146-5

EC RISK AND SAFETY PHRASES:

R 36 Irritating to eyes.

R 37 Irritating to respiratory system.

R 38 Irritating to skin.

S 2 Keep out of reach of children.

S 24 Avoid contact with skin.

S 25 Avoid contact with eyes.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 46 If swallowed, seek medical advice immediately and show this container or label.

SECTION 16 OTHER INFORMATION

MSDS SUMMARY OF CHANGES

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

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