

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

201

Required under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME MAPLE CHASE		EMERGENCY TELEPHONE NO. (716) 773-7634
Nuclear Radiation Developments, Div of Mark IV		
ADDRESS (Number, Street, City, State, and ZIP Code) 2937 Air Blvd North, Grand Island, NY 14072		
CHEMICAL NAME AND SYNONYMS Americium, Ionization Element		TRADE NAME AND SYNONYMS Alpha Emitter
CHEMICAL FAMILY Transuranic Radionuclide	FORMULA Am-241 as AmO₂	

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL Silver	90	
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS Gold	10	
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
The radioactive nuclide (Am-241) in metallic matrix, is formed into ionization foil. Then this foil is coated with gold, forming ionization sealed source, which is used as a component in smoke detectors.		

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	11
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	None
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (_____*1)	N/A
SOLUBILITY IN WATER	None		
APPEARANCE AND ODOR			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	N/A	FLAMMABLE LIMITS	N/A	Lel	Uel
EXTINGUISHING MEDIA					
SPECIAL FIRE FIGHTING PROCEDURES					
UNUSUAL FIRE AND EXPLOSION HAZARDS					

SECTION V - HEALTH HAZARD DATA

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THRESHOLD LIMIT VALUE

Maximum permissible dose is 500mRem/year per US NRC and I.C.A.P. reg.
EFFECTS OF OVEREXPOSURE
Maximum dose from smoke detector, under the most improbable hypothetical conditions (Person one meter from detector/year) is only 0.012mRem/year

EMERGENCY AND FIRST AID PROCEDURES

None NONE

SECTION VI - PEACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID	Physical abuses and
	STABLE	X		disassembling of the unit.
INCOMPATABILITY (Materials to avoid) "Aqua Rigia" and other related acids.				
HAZARDOUS DECOMPOSITION PRODUCTS AmO_2				
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID	
	WILL NOT OCCUR	X		

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED If the device, with radioactive sealed source, is damaged it should be handled according with the instructions supplied with the device.

WASTE DISPOSAL METHOD Under No Circumstances should the radioactive material be disposed at public disposal sites. It must be returned to the manufacturer or other authorized institution for disposal

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) None required

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General) General Environment	OTHER
PROTECTIVE GLOVES	None	EYE PROTECTION
OTHER PROTECTIVE EQUIPMENT		

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Strickly adhere to the manufacturer "Important Safeguards" and instruction labels, on the device.

OTHER PRECAUTIONS