SEC1244 B

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Issue date: 02/01/2023 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture

Product name : SEC1244 B

1.2. Recommended use and restrictions on use

Recommended use : Silver filled epoxy hardener

Restrictions on use : Product for industrial use only

1.3. Supplier

ResinLab, LLC
N109 W13300 Ellsworth Drive
Germantown, WI 53022 - United States
T 1-877-259-1669
msds@resinlab.com - www.resinlab.com

1.4. Emergency telephone number

Emergency number : CHEMTREC:1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage
Respiratory sensitization, Category 1	H334	May cause an allergy or asthma symptoms or breathing difficulties if inhaled
Skin sensitization, Category 1	H317	May cause an allergic skin reaction

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger

Hazard statements (GHS US) :
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H334 - May cause an allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary statements (GHS US) :
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P284 - [In case of inadequate ventilation] wear respiratory protection.
P302+P352 - If on skin: Wash with plenty of water.
P304+P341 - If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a poison center or doctor.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P342+P311 - If experiencing respiratory symptoms: Call a poison center or doctor.
P363 - Wash contaminated clothing before reuse.
P391 - Collect spillage.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Silver	(CAS-No.) 7440-22-4	75 – 90
4-Methyltetrahydrophthalic anhydride	(CAS-No.) 34090-76-1	5 – 10
1,2,3,6-tetrahydrophthalic anhydride	(CAS-No.) 85-43-8	1 – 5
Hexahydro-4-methylphthalic anhydride	(CAS-No.) 19438-60-9	1 – 5
2-ethyl-4-methylimidazole	(CAS-No.) 931-36-2	0.5 – 1
Phthalic anhydride	(CAS-No.) 85-44-9	0.1 – 0.5
2,4-dimethyl-1H-imidazole	(CAS-No.) 930-62-1	< 0.1
4-methylimidazole	(CAS-No.) 822-36-6	< 0.1
1-methylimidazole	(CAS-No.) 616-47-7	< 0.1

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center/doctor/physician if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : May cause an allergy or asthma symptoms or breathing difficulties if inhaled.

Symptoms/effects after skin contact : May cause an allergic skin reaction.

Symptoms/effects after eye contact : Serious damage to eyes.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released,Carbon oxides (CO, CO2),Nitrogen oxides

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station, ventilate curing ovens to prevent emissions in the workplace. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Wear personal protective equipment.

Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2-ethyl-4-methylimidazole (931-36-2)
Not applicable

2,4-dimethyl-1H-imidazole (930-62-1)
Not applicable

4-methylimidazole (822-36-6)
Not applicable

1-methylimidazole (616-47-7)
Not applicable

4-Methyltetrahydrophthalic anhydride (34090-76-1)
Not applicable

1,2,3,6-tetrahydrophthalic anhydride (85-43-8)
Not applicable

Hexahydro-4-methylphthalic anhydride (19438-60-9)
Not applicable

Phthalic anhydride (85-44-9)		
ACGIH	Local name	Phthalic anhydride
ACGIH	ACGIH OEL TWA	0.002 mg/m³ (Inhalable fraction and vapor)
ACGIH	ACGIH OEL STEL	0.005 mg/m³ (Inhalable fraction and vapor)
ACGIH	Remark (ACGIH)	TLV® Basis: Resp sens; asthma. Notations: Skin; DSEN; RSEN; A4 (Not classifiable as a Human Carcinogen)
ACGIH	Regulatory reference	ACGIH 2022
OSHA	OSHA PEL (TWA) [1]	12 mg/m³
OSHA	OSHA PEL (TWA) [2]	2 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

Silver (7440-22-4)		
ACGIH	Local name	Silver
ACGIH	ACGIH OEL TWA	0.1 mg/m³ 0.1 mg/m³
ACGIH	Remark (ACGIH)	TLV® Basis: Argyria
ACGIH	Regulatory reference	ACGIH 2022

Silver (7440-22-4)		
OSHA	OSHA PEL (TWA) [1]	0.01 mg/m³
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station, ventilate curing ovens to prevent emissions in the workplace.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses with side shields

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of inadequate ventilation, wear respiratory protection.

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Silver
Odor	:	characteristic
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	> 135 °C
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability	:	Not applicable.
Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	No data available
Density	:	4.33 g/cm³
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

VOC content | No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

alcohols. Bases (Alkalis). Water. Amines. Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

2-ethyl-4-methylimidazole (931-36-2)	
LD50 oral rat	731 mg/kg (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral)
LD50 dermal rabbit	> 400 mg/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Dermal)
LC50 Inhalation - Rat	> 0.03 mg/l (Equivalent or similar to OECD 403, 8 h, Rat, Male / female, Experimental value, (maximum achievable concentration), Inhalation (vapours))
ATE US (oral)	731 mg/kg body weight

4-methylimidazole (822-36-6)	
ATE US (oral)	500 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight

1-methylimidazole (616-47-7)	
LD50 oral rat	1130 mg/kg (Rat, Oral)
LD50 dermal rabbit	520 mg/kg (Rabbit, Dermal)
ATE US (oral)	1130 mg/kg body weight
ATE US (dermal)	520 mg/kg body weight

4-Methyltetrahydrophthalic anhydride (34090-76-1)	
LD50 oral rat	> 2000 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Read-across, Oral)
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Read-across, Dermal)

1,2,3,6-tetrahydrophthalic anhydride (85-43-8)	
LD50 oral rat	≈ 3200 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: EU Method B.3 (Acute Toxicity (Dermal)), Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Hexahydro-4-methylphthalic anhydride (19438-60-9)	
LD50 oral rat	> 2000 mg/kg body weight Animal: rat, Animal sex: female, Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method), Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))

Phthalic anhydride (85-44-9)	
LD50 oral rat	1530 mg/kg (Rat, Male, Experimental value, Oral, 14 day(s))

Phthalic anhydride (85-44-9)	
LD50 dermal rabbit	> 3160 mg/kg (Rabbit, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 2.14 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s))
ATE US (oral)	1530 mg/kg body weight
ATE US (dust, mist)	1.5 mg/l/4h

Silver (7440-22-4)	
LD50 oral rat	> 2000 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Powder, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Nanoform, Dermal, 15 day(s))
LC50 Inhalation - Rat	> 5.16 mg/l air (OECD 436: Acute inhalation toxicity-acute toxic class method, 4 h, Rat, Male / female, Experimental value, Powder, Inhalation (dust), 14 day(s))

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Causes serious eye damage.

Respiratory or skin sensitization : May cause an allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

4-methylimidazole (822-36-6)	
IARC group	2B - Possibly carcinogenic to humans

Phthalic anhydride (85-44-9)	
NOAEL (chronic,oral,animal/male,2 years)	3570 mg/kg body weight Animal: mouse, Animal sex: male, Remarks on results: other:Effect type: carcinogenicity (migrated information)
NOAEL (chronic,oral,animal/female,2 years)	1785 mg/kg body weight Animal: mouse, Animal sex: female, Remarks on results: other:Effect type: carcinogenicity (migrated information)

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

Phthalic anhydride (85-44-9)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Not classified

2-ethyl-4-methylimidazole (931-36-2)	
NOAEL (oral,rat,90 days)	150 mg/kg body weight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:EPA OPPTS 870.3650 (Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test)

1,2,3,6-tetrahydrophthalic anhydride (85-43-8)	
NOAEL (oral,rat,90 days)	600 mg/kg body weight Animal: rat, Guideline: EU Method B.7 (Repeated Dose (28 Days) Toxicity (Oral)), Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)

Hexahydro-4-methylphthalic anhydride (19438-60-9)	
NOAEL (oral,rat,90 days)	450 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)

Phthalic anhydride (85-44-9)	
LOAEL (oral,rat,90 days)	2500 mg/kg body weight Animal: rat, Animal sex: male

Silver (7440-22-4)	
LOAEL (oral,rat,90 days)	125 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Aspiration hazard : Not classified

Symptoms/effects after inhalation : May cause an allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/effects after skin contact : May cause an allergic skin reaction.
Symptoms/effects after eye contact : Serious damage to eyes.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

2-ethyl-4-methylimidazole (931-36-2)	
LC50 - Fish [1]	68.1 mg/l (DIN 38412-15, 96 h, Leuciscus idus, Static system, Fresh water, Experimental value)
EC50 - Crustacea [1]	297.3 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)

1-methylimidazole (616-47-7)	
LC50 - Fish [1]	100 – 220 mg/l (96 h, Leuciscus idus)
EC50 - Crustacea [1]	268 mg/l (48 h, Daphnia magna)

4-Methyltetrahydrophthalic anhydride (34090-76-1)	
LC50 - Fish [1]	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oryzias latipes, Flow-through system, Fresh water, Read-across, GLP)
EC50 - Crustacea [1]	130 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Read-across, GLP)
ErC50 algae	79 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Selenastrum capricornutum, Static system, Fresh water, Read-across, GLP)
LOEC (chronic)	40 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	20 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	100 mg/l Test organisms (species): Oryzias latipes Duration: '14 d'

1,2,3,6-tetrahydrophthalic anhydride (85-43-8)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna

Hexahydro-4-methylphthalic anhydride (19438-60-9)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
LOEC (chronic)	40 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	20 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

Phthalic anhydride (85-44-9)	
LC50 - Fish [1]	560 mg/l (OECD 210: Fish, Early-Life Stage Toxicity Test, 7 day(s), Danio rerio, Semi-static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	> 640 mg/l (48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
NOEC (chronic)	16 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	10 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '60 d'

Silver (7440-22-4)	
LC50 - Fish [1]	4.7 µg/l Test organisms (species): Pimephales promelas
LC50 - Fish [2]	89.4 µg/l Test organisms (species): Pimephales promelas

12.2. Persistence and degradability

2-ethyl-4-methylimidazole (931-36-2)	
Persistence and degradability	Readily biodegradable in water.

2,4-dimethyl-1H-imidazole (930-62-1)	
Persistence and degradability	Biodegradability in soil: no data available.

4-methylimidazole (822-36-6)	
Persistence and degradability	Inherently biodegradable.
Biochemical oxygen demand (BOD)	0.000002 g O_2/g substance

4-methylimidazole (822-36-6)	
Chemical oxygen demand (COD)	0.0015 g O_2/g substance

1-methylimidazole (616-47-7)	
Persistence and degradability	Not readily biodegradable in water.

4-Methyltetrahydrophthalic anhydride (34090-76-1)	
Persistence and degradability	Biodegradability in soil: no data available. Not readily biodegradable in water.

1,2,3,6-tetrahydrophthalic anhydride (85-43-8)	
Persistence and degradability	Not readily biodegradable in water.

Phthalic anhydride (85-44-9)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.26 g O_2/g substance
ThOD	1.51 g O_2/g substance

Silver (7440-22-4)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

2-ethyl-4-methylimidazole (931-36-2)	
Partition coefficient n-octanol/water (Log Pow)	1.13 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

2,4-dimethyl-1H-imidazole (930-62-1)	
Bioaccumulative potential	No bioaccumulation data available.

4-methylimidazole (822-36-6)	
Partition coefficient n-octanol/water (Log Pow)	0.35 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

4-Methyltetrahydrophthalic anhydride (34090-76-1)	
BCF - Fish [1]	< 2.4 (OECD 305: Bioconcentration: Flow-Through Fish Test, 6 week(s), Cyprinus carpio, Read-across)
Partition coefficient n-octanol/water (Log Pow)	1.88 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 40 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

1,2,3,6-tetrahydrophthalic anhydride (85-43-8)	
Partition coefficient n-octanol/water (Log Pow)	1.96 (Estimated value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Phthalic anhydride (85-44-9)	
BCF - Other aquatic organisms [1]	3.4 (EPIWIN BCF (v 2.15), Calculated value)
Partition coefficient n-octanol/water (Log Pow)	1.6 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Silver (7440-22-4)	
BCF - Fish [1]	70 (30 day(s), Cyprinus carpio, Fresh water, Literature study)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500). Not bioaccumulative.

12.4. Mobility in soil

2-ethyl-4-methylimidazole (931-36-2)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.71 (log Koc, Calculated value, pH = 7)
Ecology - soil	Low potential for mobility in soil.

4-methylimidazole (822-36-6)	
Ecology - soil	No (test)data on mobility of the substance available.

4-Methyltetrahydrophthalic anhydride (34090-76-1)	
Surface tension	44 mN/m (23 °C)
Ecology - soil	Adsorbs into the soil.

Phthalic anhydride (85-44-9)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.3 – 1.49 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

Silver (7440-22-4)	
Ecology - soil	No (test)data on mobility of the substance available. Adsorbs into the soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description (DOT) : UN3082 Environmentally hazardous substances, liquid, n.o.s. (Silver), 9, III

UN-No.(DOT) : UN3082

Proper Shipping Name (DOT) : Environmentally hazardous substances, liquid, n.o.s.
Silver

Class (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140

Packing group (DOT) : III - Minor Danger

Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)

Dangerous for the environment : Yes

Marine pollutant : Yes

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 241

DOT Symbols : G - Identifies PSN requiring a technical name

DOT Special Provisions (49 CFR 172.102)	:	8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description “Other regulated substances, liquid or solid, n.o.s.”, as appropriate. In addition, for solid materials, special provision B54 applies. 146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination. 173 - An appropriate generic entry may be used for this material. 335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as “Environmentally hazardous substances, solid, n.o.s,” UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leak-proof when used as bulk packaging. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
DOT Packaging Exceptions (49 CFR 173.xxx)	:	155
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	No Limit
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	No Limit
DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.
Emergency Response Guide (ERG) Number	:	171
Other information	:	No supplementary information available.

Transportation of Dangerous Goods

Not regulated

Transport by sea

Transport document description (IMDG)	:	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III
UN-No. (IMDG)	:	3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class (IMDG)	:	9 - Miscellaneous dangerous substances and articles
Packing group (IMDG)	:	III - substances presenting low danger
Limited quantities (IMDG)	:	5 L
Marine pollutant	:	Yes

Air transport

Transport document description (IATA)	:	UN 3082 Environmentally hazardous substance, liquid, n.o.s., 9, III
UN-No. (IATA)	:	3082
Proper Shipping Name (IATA)	:	Environmentally hazardous substance, liquid, n.o.s.
Class (IATA)	:	9 - Miscellaneous Dangerous Substances and Articles

Packing group (IATA) : III - Low danger

SECTION 15: Regulatory information

15.1. US Federal regulations

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Phthalic anhydride	CAS-No. 85-44-9	0.1 – 0.5%
Silver	CAS-No. 7440-22-4	75 – 90%

2-ethyl-4-methylimidazole (931-36-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

2,4-dimethyl-1H-imidazole (930-62-1)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

4-methylimidazole (822-36-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

1-methylimidazole (616-47-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

4-Methyltetrahydrophthalic anhydride (34090-76-1)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

1,2,3,6-tetrahydrophthalic anhydride (85-43-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Hexahydro-4-methylphthalic anhydride (19438-60-9)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Phthalic anhydride (85-44-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	5000 lb

Silver (7440-22-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	1000 lb

15.2. International regulations

CANADA

2-ethyl-4-methylimidazole (931-36-2)
Listed on the Canadian DSL (Domestic Substances List)

2,4-dimethyl-1H-imidazole (930-62-1)
Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

4-methylimidazole (822-36-6)
Listed on the Canadian NDSL (Non-Domestic Substances List)

1-methylimidazole (616-47-7)
Listed on the Canadian DSL (Domestic Substances List)

4-Methyltetrahydrophthalic anhydride (34090-76-1)
Listed on the Canadian DSL (Domestic Substances List)

1,2,3,6-tetrahydrophthalic anhydride (85-43-8)
Listed on the Canadian DSL (Domestic Substances List)

Hexahydro-4-methylphthalic anhydride (19438-60-9)
Listed on the Canadian DSL (Domestic Substances List)

Phthalic anhydride (85-44-9)
Listed on the Canadian DSL (Domestic Substances List)

Silver (7440-22-4)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Contains the following REACH ingredient(s): Hexahydromethylphthalic anhydride (EC 243-072-0, CAS 19438-60-9)

National regulations

4-methylimidazole (822-36-6)
Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations

⚠ **WARNING:** This product can expose you to 4-Methylimidazole, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Component	State or local regulations
1,2,3,6-tetrahydrophthalic anhydride(85-43-8)	U.S. - New Jersey - Right to Know Hazardous Substance List
Phthalic anhydride(85-44-9)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Silver(7440-22-4)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases:

H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H334	May cause an allergy or asthma symptoms or breathing difficulties if inhaled
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

SDS US - ResinLab

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.