



SILVER FERN
CHEMICAL INC

SILVER FERN CHEMICAL, INC.

Safety Data Sheet

AP-CAT0042

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : AP-CAT0042
Synonyms : Dibutyltin Oxide
CAS-No. : 818-08-6

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Ester Catalysts /Acrylate Catalysts

1.3 Details of the supplier of the safety data sheet

Company : Silver Fern Chemical, Inc.
2226 Queen Anne Avenue North
Seattle, WA 98109, USA
Telephone : 1-866-282-3384
Business Contact : Customer Service: 1-866-282-3384
info@silverfernchemical.com

1.4 24 Hour Emergency telephone number

Emergency Phone # : Infotrac: 1-800-535-5053 (USA & Canada)
Outside USA & Canada 1-352-323-3500

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 3), H301
Skin irritation (Category 2), H315 Serious
eye damage (Category 1), H318 Skin
sensitisation (Category 1), H317
Germ cell mutagenicity (Category 2), H341
Reproductive toxicity (Category 1B), H360
Specific target organ toxicity - single exposure (Category 1), thymus gland, H370
Specific target organ toxicity - repeated exposure, Oral (Category 1), thymus gland, H372 Short-
term (acute) aquatic hazard (Category 2), H401
Long-term (chronic) aquatic hazard (Category 2), H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H301 Toxic if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H341 Suspected of causing genetic defects.
H360 May damage fertility or the unborn child.
H370 Causes damage to organs (thymus gland).
H372 Causes damage to organs (thymus gland) through prolonged or repeated exposure if swallowed.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.
P280 Wear protective gloves.
P281 Use personal protective equipment as required.
P308 + P313 IF exposed or concerned: Get medical advice/attention..
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P337 + P313 If Eye irritation persists : Get medical advice/attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P314 Get medical advice/attention if you feel unwell.
P362 Take off contaminated clothing and wash before reuse.
P391 Collect spillage.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : Dibutylxotin
Molecular weight : 248.94 g/mol
CAS-No. : 818-08-6
EC-No. : 212-449-1

Component	Classification	Concentration
Dibutyltin oxide		
	Acute Tox. 3; Skin Irrit. 2; Eye Dam. 1; Skin Sens. 1; Muta. 2; Repr. 1B; STOT SE 1; STOT RE 1; Aquatic Acute 2; Aquatic Chronic 2; H301, H315, H318, H317, H341, H360, H370, H372, H401, H411	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media Suitable

extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Tin/tin oxides

While burning, very toxic gas may occur by thermal decomposition or combustion.

When heated, it may cause container explosion.

Some can burn but does not ignite easily.

No flammability, substance does not burn itself but when heated, it may cause corrosive/toxic fumes.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

To discard fire-fighting water, dig a ditch and store to avoid release.

Move containers from fire area if without risk. Use unmanned fire-fighting equipment or extinguish in maximum distance from fire. Cool down containers with large amount of water after tank fire.

Do not let water get inside the container. In case of tank fire, if there are high notes from pressure release device or any discoloration of tank, please move back immediately.

5.4 Further information

No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection and proper protective clothing. Avoid dust formation. Avoid breathing dust, fumes, vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Environmental precautions

Prevent spread of material by covering with a plastic sheet. Prevent further leakage or spillage if safe to do so. Do not let product enter drains, sewers, surface or ground water. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Keep in a dry place.

Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Dibutyltin oxide	818-08-6	TWA	0.1 mg/m ³	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	0.1 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Central nervous system		

		Immune effects Upper Respiratory Tract irritation Headache Eye irritation Nausea Not classifiable as a human carcinogen Danger of cutaneous absorption varies		
		STEL	0.2 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Central nervous system Immune effects Upper Respiratory Tract irritation Headache Eye irritation Nausea Not classifiable as a human carcinogen Danger of cutaneous absorption varies		
		TWA	0.1 mg/m3	USA. NIOSH Recommended Exposure Limits
		Also see specific listing for Cyhexatin. Potential for dermal absorption		
		PEL	0.1 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		Skin		
		STEL	0.2 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		Skin		

8.2 Exposure controls

Appropriate engineering controls

Please use process isolation, local exhaust, or other engineering controls to adjust the air levels below the exposure guidelines. Please install washing facilities and safety shower. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Promptly remove soiled clothing and wash thoroughly before reuse.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm
Break through time: 480 min Material
tested:Dermatril®

Splash contact Material:

Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min Material
tested:Dermatril®

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de,
test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full- face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|--|---|
| a) Appearance | Form: powder
Colour: white |
| b) Odour | No data available |
| c) Odour Threshold | No data available |
| d) pH | No data available |
| e) Melting point/freezing point | Melting point: 105 °C 161.9 °C 323.4 °F |
| f) Initial boiling point and boiling range | |
| g) Flash point | ()No data available |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | The product is not flammable. - Flammability (solids) |

j)	Upper/lower flammability or explosive limits	No data available
k)	Vapour pressure	6 e-8 hPa
l)	Vapour density	No data available
m)	Relative density	No data available
n)	Water solubility	Not soluble in water
o)	Partition coefficient: n-octanol/water	No data available
p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available
u)	Specific gravity	1.5
v)	Molecular weight	248.9

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Can generate toxic gases under decomposition at high temperatures.

When heated, it may cause container explosion.

There is a risk of steam explosions in indoor, outdoor and sewers. Some can burn but does not ignite easily.

Contact with metal can generate flammable hydrogen gas.

Toxic : inhalation, ingestion, or skin contact may result in serious injury and death.

10.2 Contact with molten material may cause severe burns to skin and eyes. Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. — No smoking

10.5 Incompatible materials

Strong oxidizing agents; Metal

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Tin/tin oxides

Other decomposition products - Irritant, Corrosive, toxic gas

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects Acute toxicity

LD50 Oral - Rat - male and female - 172 mg/kg

(OECD Test Guideline 401)

LD50 Dermal - Rat - male and female - > 2,000 mg/kg (OECD

Test Guideline 402)

No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Irritating to skin. - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Corrosive

(OECD Test Guideline 405)

Respiratory or skin sensitisation

Skin sensitization test using guinea pig found skin sensitization. (OECD Guideline 406, GLP)Germ cell mutagenicity

In vitro tests showed mutagenic effects

Ames test

S. typhimurium

Result: negative

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity

No data available

Presumed human reproductive toxicant No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

Repeated dose toxicity - Liver:Other changes. Gastrointestinal:Changes in structure or function of exocrine pancreas.

RTECS: Not available

Cough, Shortness of breath, Headache, Nausea, Vomiting

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - 2 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae EC50 - Desmodesmus subspicatus (green algae) - \geq 1.6 mg/l - 72 h (OECD Test Guideline 201)

Toxicity to bacteria Respiration inhibition EC50 - Sludge Treatment - $>$ 1,000 mg/l - 3 h (OECD Test Guideline 209)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d
Result: 0 % - Not readily biodegradable.
(OECD Test Guideline 301F)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

Toxic to aquatic life with long lasting effects.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information DOT

(US)

UN number: 3146 Class: 6.1 Packing group: III
Proper shipping name: Organotin compounds, solid, n.o.s. (Dibutyltin oxide)

Reportable Quantity (RQ): N/A

• Marine pollutant: yes Poison Inhalation Hazard: No

IMDG

UN number: 3146 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: ORGANOTIN COMPOUND, SOLID, N.O.S. (Dibutyltin oxide) Marine

pollutant : yes

Marine pollutant : yes

IATA

UN number: 3146 Class: 6.1 Packing group: III
Proper shipping name: Organotin compound, solid, n.o.s. (Dibutyltin oxide)

SECTION 15: Regulatory information

Regulatory Overview

The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Inventory - United States - Section 8(b) Inventory (TSCA):

Dibutyltin oxide (Commercial Status Designation: ACTIVE)

The following flags are used:

- Active - indicates commercial status designation of active
- E - indicates a substance that is the subject of a Section 5(e) Consent Order under TSCA.
- F - indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- N - indicates a polymeric substance containing no free-radical initiator in its Inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- P - indicates a commenced Premanufacture Notice (PMN) substance.
- R - indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- S - indicates a substance that is identified in a final Significant New Uses Rule.
- SP - indicates a substance that is identified in a proposed Significant New Uses Rule.
- T - indicates a substance that is the subject of a final Section 4 test rule under TSCA.
- UVCB Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials •XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).
- Y1 - indicates a polymer that has a number-average molecular weight greater than 1,000 and that was exempt under the 1984 polymer exemption rule.
- Y2 - indicates a polymer that is a polyester and that was exempt under the 1984 polymer exemption rule.

EPCRA 302 Extremely Hazardous:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Carcinogens (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 Label Warning:

This product contains no chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Mass RTK Substances (>1%) :

New Jersey RTK Substances (>1%) :

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Pennsylvania RTK Substances (>1%) :

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

OSHA Process Safety Management Standard Highly Hazardous Chemicals, Toxics and Reactives:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

US EPA List of Regulated Substances under the Risk Management Plan (RMP) Program:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

US EPA Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) under the Minimum Risk Exemption:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

U.S. - DEA List II or Essential Chemicals:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

U.S. - DEA - Exempt Chemical Mixtures - List 1 and 2:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

US DHS Chemical Facility Anti-Terrorism Standards (CFATS):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.



SECTION 16: Other information

DISCLAIMER OF RESPONSIBILITY

The information on this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable.

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