



# FASCAT (R) 4233 Catalyst

Material Safety Data Sheet

Arkema Inc.

## 1 PRODUCT AND COMPANY IDENTIFICATION

### Functional Additives

2000 Market Street  
21st Floor  
Philadelphia, PA 19103-3222

### EMERGENCY PHONE NUMBERS:

Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887  
Medical: Rocky Mountain Poison Control Center  
(866) 767-5089 (24Hrs)

Information Telephone Numbers	Phone Number	Available Hrs
Customer Service Number	(800) 331-7654	8:00 AM - 5:00 PM EST

Product Name FASCAT (R) 4233 Catalyst  
Product Synonym(s)

Chemical Family Organotin  
Chemical Formula NA  
Chemical Name  
EPA Reg Num NA  
Product Use Catalyst

## 2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical %	OSHA
Monobutyltin trichloride	1118-46-3	< 5	Y
Monobutyltin tris(2-ethylhexyl mercaptoacetate)	26864-37-9	< 15	Y
Dibutyltin bis (2-ethylhexyl mercaptoacetate)	10584-98-2	> 80	Y

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

The components of this product are all on the TSCA Inventory list.

## 3 HAZARDS IDENTIFICATION

### Emergency Overview

Clear yellow liquid with a sulfur odor.

**WARNING!**  
MAY BE HARMFUL IF SWALLOWED.  
CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION.  
POSSIBLE REPRODUCTIVE AND BIRTH DEFECT HAZARD. MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS AND BIRTH DEFECTS BASED ON ANIMAL DATA  
MAY CAUSE ALLERGIC SKIN REACTION.

### Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on single exposure animal tests, it is considered to be slightly toxic if swallowed, no more than slightly toxic if absorbed through skin, slightly irritating to eyes and severely irritating to skin. Repeated exposure may cause an allergic skin reaction. If swallowed, this material will react in the body to form a material which, based on studies in animals, may cause reproductive effects and birth defects.

**4 FIRST AID MEASURES**

IF IN EYES, immediately flush with plenty of water for at least 15 minutes. Get medical attention.

IN CASE OF CONTACT, immediately flush the area with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

IF INHALED, remove to fresh air. If breathing is difficult, get medical attention.

IF SWALLOWED, induce vomiting as directed by medical personnel. Get medical attention. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

**5 FIRE FIGHTING MEASURES****Fire and Explosive Properties**

Auto-Ignition Temperature	NE		
Flash Point	>120 deg C	Flash Point Method	TCC
Flammable Limits- Upper	NE		
Lower	NE		

**Extinguishing Media**

Use water spray, carbon dioxide, foam or dry chemical.

**Fire Fighting Instructions**

Contain run-off from fire. Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

**Fire and Explosion Hazards**

When burned, the following hazardous products of combustion can occur: Carbon monoxide Carbon dioxide Tin oxides Avoid breathing fumes from fire exposed material.

**6 ACCIDENTAL RELEASE MEASURES****In Case of Spill or Leak**

Stop the leak, if possible. Ventilate the space involved. Contain, sweep up, place in container for disposal. Prevent waterway contamination. Construct a dike to prevent spreading. Collect run-off water and transfer to drums or tanks for later disposal. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

Clean up procedures: Transfer to containers, in preparation for later disposal. Avoid generation of dusts. Remove from spill location. Flush area with water spray, collect rinsate.

**7 HANDLING AND STORAGE****Handling**

Do not taste or swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapor. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

**Storage**

This material is not hazardous under normal storage conditions; however, material should be stored in closed containers, in a secure area to prevent container damage and subsequent spillage. Upon exposure to

**7 HANDLING AND STORAGE**

direct sunlight, product degradation to an organic tin salt may occur.

**8 EXPOSURE CONTROLS / PERSONAL PROTECTION**
**Engineering Controls**

Investigate engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

**Eye / Face Protection**

Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment immediately available.

**Skin Protection**

Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Wear chemical goggles, a face shield, and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing promptly and wash before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash skin thoroughly after handling.

**Respiratory Protection**

Avoid breathing vapor or mist. When airborne exposure limits are exceeded (see below), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and chemical goggles. Consult OSHA Standard (29 CFR § 1910.10 to determine required type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

**Airborne Exposure Guidelines for Ingredients**

Exposure Limit		Value
<b>Dibutyltin bis (2-ethylhexyl mercaptoacetate)</b>		
ACGIH Skin designator	-	Y
ACGIH STEL	-Organic tin compounds, as Sn	0.2 mg/m <sup>3</sup>
ACGIH TWA	-Organic tin compounds, as Sn	0.1 mg/m <sup>3</sup>
ARKEMA 12-hour TWA	-Mono- and dibutyl tin compounds, as Sn	0.07 mg/m <sup>3</sup>
OSHA TWA PEL	-Organic tin compounds, as Sn	0.1 mg/m <sup>3</sup>
<b>Monobutyltin trichloride</b>		
ACGIH Skin designator	-	Y
ACGIH STEL	-Organic tin compounds, as Sn	0.2 mg/m <sup>3</sup>
ACGIH TWA	-Organic tin compounds, as Sn	0.1 mg/m <sup>3</sup>
ARKEMA 12-hour TWA	-Mono- and dibutyl tin compounds, as Sn	0.07 mg/m <sup>3</sup>
OSHA TWA PEL	-Organic tin compounds, as Sn	0.1 mg/m <sup>3</sup>
<b>Monobutyltin tris(2-ethylhexyl mercaptoacetate)</b>		
ACGIH Skin designator	-	Y
ACGIH STEL	-Organic tin compounds, as Sn	0.2 mg/m <sup>3</sup>

**Monobutyltin tris(2-ethylhexyl mercaptoacetate)**

ACGIH TWA	-Organic tin compounds, as Sn	0.1 mg/m3
ARKEMA 12-hour TWA	-Mono- and dibutyltin compounds, as Sn	0.07 mg/m3
OSHA TWA PEL	-Organic tin compounds, as Sn	0.1 mg/m3

-Only those components with exposure limits are printed in this section.

-Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.

-ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.

-WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.

**9 PHYSICAL AND CHEMICAL PROPERTIES**

## Appearance/Odor

Clear yellow liquid with a sulfur odor.

pH

NE

Specific Gravity

1.126

Vapor Pressure

NE

Vapor Density

NE

Melting Point

-30 deg C

Freezing Point

-30 deg C

Boiling Point

NE

Solubility In Water

Insoluble

**10 STABILITY AND REACTIVITY****Stability**

This material is chemically stable under normal and anticipated storage and handling conditions.

**Hazardous Polymerization**

Does not occur.

**Incompatibility**

Contact with bases and reducing agents may result in a low energy release

**Hazardous Decomposition Products**

Non known

**11 TOXICOLOGICAL INFORMATION****Toxicological Information**

Data on this material and/or its components are summarized below.

Dibutyltin bis (2-ethylhexyl mercaptoacetate)

Single exposure (acute) studies indicate that this material is slightly toxic if swallowed (rat LD50 510-4,439 mg/kg), no more than slightly toxic if absorbed through skin (rat LD50 >2,000 mg/kg), slightly irritating to rabbit eyes and severely irritating to rabbit skin. Skin allergy was observed in guinea pigs following repeated exposure.

No genetic changes were observed in tests using bacteria. If swallowed, this material will react in the body to form dibutyltin dichloride (DBTC).

**11 TOXICOLOGICAL INFORMATION****Monobutyltin Tris(2-ethylhexyl mercaptoacetate)**

Single exposure (acute) studies indicate that this material is slightly toxic if swallowed by mice (LD50 = 1,520 mg/kg) and by rats (LD50 = 1063mg/kg) or inhaled by rats (4-hr LC50 = 0.94 mg/l) and severely irritating to rabbit eyes and skin. Both positive and negative responses have been reported in genetic tests using bacteria or animal cells.

**Monobutyltin trichloride**

Single exposure (acute) studies indicate that this material is slightly toxic if swallowed (rat LD50 2,300 mg/kg; undiluted material is corrosive to the digestive tract) and corrosive to rabbit eyes and skin (4- and 24-hr exposures). Repeated oral exposure produced signs of sensory irritation, reduced body weights, lung and liver damage. No birth defects were observed in the offspring of rats exposed orally during pregnancy. Both positive and negative responses have been reported in tests to assess genetic changes using bacteria or cell cultures. No genetic changes were observed in tests using animals.

**12 ECOLOGICAL INFORMATION****Ecotoxicological Information**

Data on this material and/or its components are summarized below.

**Dibutyltin bis (2-ethylhexyl mercaptoacetate)**

This material is highly toxic to *Daphnia magna* (48-hr EC50 0.035 mg/l) and algae (72-hr EC50 0.56 mg/l). It is moderately to slightly toxic to zebra fish (96-hr LC50 11.7-43 mg/l) and practically non-toxic to bacteria (3-hr LC50 >100 mg/l). *Daphnia* 21 day EC50 640 ug/l.

**Monobutyltin Tris(2-ethylhexyl mercaptoacetate)**

This material is moderately toxic to *Brachydanio rerio* (96-hr LC50 > 2.3 mg/l) and highly toxic to the alga *S. subspicatus* (72-hr EC50 > 0.358 mg/l). The 21-day reproduction EC50 for *Daphnia magna* is 0.103 mg/l, and for parental growth and survival is > 0.117 mg/l.

**Monobutyltin trichloride**

This material is practically nontoxic to slightly toxic to bacteria (IC50 = 135 mg/l), zebrafish (96-hr LC50 >100 mg/l), *Daphnia* (48-hr EC50 83 mg/l), and algae (72-hr EC50 0.31 mg/l).

**Chemical Fate Information**

Data on this material and/or its components are summarized below.

**Dibutyltin bis (2-ethylhexyl mercaptoacetate)**

This material is inherently biodegradable (30 -40% after 26 days and 50 - 60% after 74 days).

**Monobutyltin Tris(2-ethylhexyl mercaptoacetate)**

This material is readily biodegradable (60-70% in 28 days). The calculated log Pow is 12.5

**Monobutyltin trichloride**

Laboratory experiments simulating estuarine conditions have shown that this material will be mainly adsorbed onto particulate matter and likely to settle, depending on local conditions. One reported half-life in seawater is 2 to 14 days. The bioconcentration factor in carp was calculated to be 2.1. Not biodegradable (-0.02% after 35 days).

**13 DISPOSAL CONSIDERATIONS****Waste Disposal**

Recover, reclaim or recycle when practical. Dispose of in an approved landfill if allowed locally. Comply with federal, state, and local regulations. Dispose of in a permitted waste management facility if incineration or landfill is not practical.

**14 TRANSPORT INFORMATION**

DOT Name Not regulated by DOT  
DOT Technical Name  
DOT Hazard Class  
UN Number  
DOT Packing Group PG  
RQ NE

**15 REGULATORY INFORMATION****Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)**

Immediate (Acute) Health	Y	Fire	N
Delayed (Chronic) Health	N	Reactive	N
		Sudden Release of Pressure	N

The components of this product are all on the TSCA Inventory list.

**Ingredient Related Regulatory Information:****SARA Reportable Quantities**

	CERCLA RQ	SARA TPQ
Dibutyltin bis (2-ethylhexyl mercaptoacetate)	NE	NE
Monobutyltin trichloride	NE	
Monobutyltin tris(2-ethylhexyl mercaptoacetate)	NE	

**New Jersey Right to Know**

This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right-to-Know Substances List.

Dibutyltin bis (2-ethylhexyl mercaptoacetate)  
Monobutyltin trichloride  
Monobutyltin tris(2-ethylhexyl mercaptoacetate)

**16 OTHER INFORMATION****Revision Information**

Revision Date 08 JAN 2007 Revision Number 7  
Supersedes Revision Dated 02-JAN-2007

**Revision Summary**

Update PHE, Tox and Eco data from HEIS

**Key**



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Arkema Inc.

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