# SAFETY DATA SHEET



#### 1. Identification

Product identifier ENDOX® Dry

Other means of identification

Product code 018766

**Recommended use** A dry antioxidant to deliver protection to animal feed.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name

Address

Kemin Industries, Inc.
2100 Maury Street
Des Moines, Iowa 50317

United States

Telephone (515) 559-5100

Website http://www.kemin.com/
E-mail media@kemin.com

Emergency phone number CHEMTREC 1-800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Acute toxicity, inhalation Category 4

Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2B
Sensitization, skin Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Causes skin irritation. May cause an allergic skin reaction. Causes eye irritation. Harmful if

inhaled.

**Precautionary statement** 

Prevention Avoid breathing dust. Wash thoroughly after handling. Use only outdoors or in a well-ventilated

area. Contaminated work clothing must not be allowed out of the workplace. Wear protective

gloves.

**Response** If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable

for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Collect spillage.

**Storage** Store away from incompatible materials.

None known.

**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise

classified (HNOC)

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**Supplemental information** 72.38% of the mixture consists of component(s) of unknown acute dermal toxicity. 72.38, 72.38%

of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 72.38, 72.38% of the mixture consists of component(s) of unknown long-term hazards to the

1/8

aquatic environment.

Material name: ENDOX® Dry SDS US

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# 3. Composition/information on ingredients

#### **Mixtures**

Chemical name	Common name and synonyms	CAS number	%
Calcium Carbonate		471-34-1	60 - < 70
Silicon Dioxide		112926-00-8	10 - < 20
Citric Acid		77-92-9	5 - < 10
Butylated Hydroxytoluene		128-37-0	3 - < 5
Ethoxyquin		91-53-2	3 - < 5
Butylated Hydroxyanisole		25013-16-5	1 - < 3
Phosphoric Acid		7664-38-2	1 - < 3
Soybean Oil		8001-22-7	1 - < 3
Other components below reportable levels			1 - < 3

#### 4. First-aid measures

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or

artificial respiration if needed. Call a poison center or doctor/physician if you feel unwell.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of

eczema or other skin disorders: Seek medical attention and take along these instructions. Wash

contaminated clothing before reuse.

Eye contact Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove

contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation

develops and persists.

**Ingestion** Rinse mouth. Get medical attention if symptoms occur.

Most important

symptoms/effects, acute and

delayed

Indication of immediate medical attention and special

treatment needed

pain. May cause an allergic skin reaction. Dermatitis. Rash.

Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim

Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Dusts

may irritate the respiratory tract, skin and eyes. Coughing. Skin irritation. May cause redness and

under observation. Symptoms may be delayed.

**General information** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Unsuitable extinguishing

media

Specific hazards arising from

the chemical

Special protective equipment

and precautions for firefighters
Fire fighting

equipment/instructions

Specific methods
General fire hazards

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Do not use water jet as an extinguisher, as this will spread the fire.

During fire, gases hazardous to health may be formed.

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Use water spray to cool unopened containers.

Use standard firefighting procedures and consider the hazards of other involved materials.

No unusual fire or explosion hazards noted.

# 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of dust. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

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# Methods and materials for containment and cleaning up

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Minimize dust generation and accumulation. Collect dust using a vacuum cleaner equipped with HEPA filter. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

#### **Environmental precautions**

# 7. Handling and storage

Precautions for safe handling

Minimize dust generation and accumulation. Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

# 8. Exposure controls/personal protection

#### Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Components	Туре	Value	Form
Calcium Carbonate (CAS 171-34-1)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Phosphoric Acid (CAS 7664-38-2)	PEL	1 mg/m3	
Soybean Oil (CAS 3001-22-7)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
US. OSHA Table Z-3 (29 CFR 1910.1	•		
Components	Туре	Value	
Silicon Dioxide (CAS 112926-00-8)	TWA	0.8 mg/m3	
		20 mppcf	
US. ACGIH Threshold Limit Values			
Components	Туре	Value	Form
Butylated Hydroxytoluene (CAS 128-37-0)	TWA	2 mg/m3	Inhalable fraction and vapor.
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m3	
	TWA	1 mg/m3	
US. NIOSH: Pocket Guide to Chemic	al Hazards		
Components	Туре	Value	Form
Butylated Hydroxytoluene (CAS 128-37-0)	TWA	10 mg/m3	
Calcium Carbonate (CAS 471-34-1)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m3	
	TWA	1 mg/m3	
Silicon Dioxide (CAS 112926-00-8)	TWA	6 mg/m3	

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Components
Type
Value
Form

Soybean Oil (CAS
8001-22-7)

TWA
5 mg/m3
Respirable mist.

10 mg/m3
Total mist

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Provide eyewash station and safety shower.

#### Individual protection measures, such as personal protective equipment

**Eye/face protection** Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.Other Wear appropriate chemical resistant clothing.

exceeding the exposure limits. Chemical respirator with organic vapor cartridge, full facepiece,

dust and mist filter.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

# 9. Physical and chemical properties

**Appearance** 

Physical state Solid.
Form Powder.

**Color** Beige, may darken over time

Odor Slightly pungent
Odor threshold Not available.

pH 4.9 - 5.4

Melting point/freezing point Not available.

Initial boiling point and boiling Not available.

range

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Vapor pressure 0.000006 hPa estimated

Not available.

Vapor density Not available.

Relative density Not available.

Explosive limit - upper (%)

Solubility(ies)

Solubility (water) Not available.

Partition coefficient Not available.

(n-octanol/water)

Auto-ignition temperature Not available.

Decomposition temperature Not available.

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Not available. **Viscosity** 

Other information

**Bulk density** > 40 lb/ft<sup>3</sup>

### 10. Stability and reactivity

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

Material is stable under normal conditions. **Chemical stability** 

Possibility of hazardous

reactions

No dangerous reaction known under conditions of normal use.

Conditions to avoid Contact with incompatible materials.

Incompatible materials Acids. Chlorine. Fluorine.

**Hazardous decomposition** 

products

No hazardous decomposition products are known.

### 11. Toxicological information

#### Information on likely routes of exposure

Inhalation Harmful if inhaled.

Skin contact Causes skin irritation. May cause an allergic skin reaction.

Eye contact Causes eye irritation.

Ingestion Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Dusts may irritate the respiratory tract, skin and eyes. Coughing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

## Information on toxicological effects

**Acute toxicity** Harmful if inhaled.

Components **Species Test Results** 

Butylated Hydroxyanisole (CAS 25013-16-5)

**Acute** Oral

LD50 Mouse 2000 mg/kg Rat 2200 mg/kg

Butylated Hydroxytoluene (CAS 128-37-0)

Acute **Dermal** 

> 2000 mg/kg LD50 Rat

Oral

LD50 Rat 890 mg/kg

Calcium Carbonate (CAS 471-34-1)

**Acute** Oral

LD50 Rat 6450 mg/kg

Citric Acid (CAS 77-92-9)

**Acute** Oral

Rat

LD50 6730 mg/kg

Phosphoric Acid (CAS 7664-38-2)

**Acute** Inhalation

LC50 Guinea pig, Mouse, Rabbit, Rat 3846 mg/m3, 1 Hours

Material name: ENDOX® Dry SDS US Components Species Test Results

Silicon Dioxide (CAS 112926-00-8)

Acute Oral

LD50 Rat > 22500 mg/kg

Skin corrosion/irritation Causes skin irritation.
Serious eye damage/eye Causes eye irritation.

irritation

Respiratory or skin sensitization

**Respiratory sensitization** Not a respiratory sensitizer.

**Skin sensitization** May cause an allergic skin reaction.

**Germ cell mutagenicity**No data available to indicate product or any components present at greater than 0.1% are

mutagenic or genotoxic.

**Carcinogenicity** Risk of cancer cannot be excluded with prolonged exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

Butylated Hydroxyanisole (CAS 25013-16-5)

2B Possibly carcinogenic to humans.

Butylated Hydroxytoluene (CAS 128-37-0)
3 Not classifiable as to carcinogenicity to humans.
Silicon Dioxide (CAS 112926-00-8)
3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

**US. National Toxicology Program (NTP) Report on Carcinogens** 

Butylated Hydroxyanisole (CAS 25013-16-5)

Reasonably Anticipated to be a Human Carcinogen.

**Reproductive toxicity**This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity -

single exposure

Not classified.

Specific target organ toxicity -

repeated exposure

Not classified.

**Aspiration hazard** Not an aspiration hazard.

**Chronic effects** Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

Further information Contains butylated hydroxyanisole (BHA). Rats, mice, and hamsters given high levels (1 and 2%)

of BHA in their food have developed malignant tumors (cancer) of the forestomach. No excess incidence of benign or malignant tumors was seen in animals fed BHA at levels below 0.5%. In experimental feeding studies, the forestomach of rodents is almost continuously full of food. The

continuous presence of food containing BHA causes prolonged irritation that leads to inflammation, pecrosis (death of tissue cells), and ulceration. It is thought that this continuous presence of food containing BHA causes prolonged irritation that leads to

inflammation, necrosis (death of tissue cells), and ulceration. It is thought that this continuous tissue damage is responsible for producing the cancers. No inflammation or cancers were seen in the true (glandular) stomach of these rodents, even after prolonged feeding, nor were they seen in animals which do not have forestomachs (guinea pigs, dogs, and monkeys) fed BHA in the diet at levels around 1 %. Since the stomach of humans is similar in structure to the glandular stomach of rodents and to the stomachs of dogs, monkeys, and guinea pigs, It is likely that BHA does not present a significant risk of cancer to humans exposed to BHA at levels typical of occupational exposures or consumer use. Contains an IARC (International Agency for Research on Cancer) 2B material. IARC 2B is a classification for possible human carcinogen based on sufficient evidence on carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed

humans.

12. Ecological information

**Ecotoxicity**The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components Species Test Results

Calcium Carbonate (CAS 471-34-1)

Aquatic Acute

Fish LC50 Western mosquitofish (Gambusia affinis) > 56000 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Material name: ENDOX® Dry

Partition coefficient n-octanol / water (log Kow)

Citric Acid -1.64

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation

potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

**Disposal instructions**Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the

material under controlled conditions in an approved incinerator. Dispose of contents/container in

accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

Hazardous waste code D002: Waste Corrosive material [pH <= 2 or => 12.5, or corrosive to steel]

The waste code should be assigned in discussion between the user, the producer and the waste

disposal company.

Waste from residues / unused

products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see:

Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is

emptied. Empty containers should be taken to an approved waste handling site for recycling or

disposal.

# 14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

**IMDG** 

Not regulated as dangerous goods.

Transport in bulk according to

Annex II of MARPOL 73/78 and

the IBC Code

Not applicable.

# 15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication

Standard, 29 CFR 1910.1200.

**Toxic Substances Control Act (TSCA)** 

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)** 

Phosphoric Acid (CAS 7664-38-2) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous Y

Yes

chemical

Classified hazard Acute toxicity (any route of exposure)

categories Skin corrosion or irritation

Serious eye damage or eye irritation Respiratory or skin sensitization

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

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# Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Contains component(s) regulated under the Safe Drinking Water Act.

(SDWA)

#### FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Phosphoric Acid (CAS 7664-38-2) High priority

#### **US state regulations**

# US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd.

(a))

Butylated Hydroxyanisole (CAS 25013-16-5)

Phosphoric Acid (CAS 7664-38-2)

#### **California Proposition 65**



WARNING: This product can expose you to Butylated Hydroxyanisole, which is known to the State of California

to cause cancer. For more information go to www.P65Warnings.ca.gov.

#### California Proposition 65 - CRT: Listed date/Carcinogenic substance

Butylated Hydroxyanisole (CAS 25013-16-5) Listed: January 1, 1990

#### **International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No

United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory Yes \*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s) A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

# 16. Other information, including date of preparation or last revision

**Issue date** 04-17-2023

Version # 01

**List of abbreviations** AICIS: Australian Inventory of Industrial Chemicals.

**Disclaimer** The information provided in this Safety Data Sheet is correct to the best of our knowledge,

information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other

materials or in any process, unless specified in the text.

Material name: ENDOX® Dry sps us