



SAFETY DATA SHEET

Conforms to the requirements of the United States Hazard Communication regulation 29 CFR 1910.1200

SECTION 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION

| | |
|----------------------------|---|
| PRODUCT NAME | AMBROXAN |
| PRODUCT CASRN | 6790-58-5 |
| PRODUCT DESCRIPTION | ALIPHATIC CYCLIC ETHER |
| SDS DOCUMENT No. | K80110 |
| RECOMMENDED USES | This product is intended for use in fragrance applications. |

RESPONSIBLE PARTY

Kao Specialties Americas LLC
243 Woodbine Street
P. O. Box 2316
High Point, NC 27261
Telephone: 1-800-727-2214

Refer to SECTION 16 for information regarding the
MANUFACTURER(s) of this product

FOR ALL TRANSPORTATION ACCIDENTS, call Chemtrec at 800-424-9300 or 703-527-3887 for international collect calls.

SECTION 2: HAZARD(S) IDENTIFICATION

PRODUCT CLASSIFICATION per 29 CFR 1910.1200

HAZARD CLASSIFICATION

This product does not satisfy any of the criteria for a hazardous material per the guidelines established by the United Nations (Globally Harmonized System of Classification and Labelling of Chemicals) as specified in 29 CFR 1910.1200 Hazard Communication (2012).

SIGNAL WORD

Not Applicable

HAZARD STATEMENTS

Not Applicable

RECOMMENDED SAFETY PRECAUTIONS

| | |
|---------------------------|--|
| INJURY PREVENTION | <p>Good industrial hygiene practices should be followed when handling this material. Avoid contact with eyes and skin. Do not breathe dusts/fumes/vapors of this material.</p> <p>Wash thoroughly after handling.</p> <p>When necessary, use appropriate personal protective equipment to prevent injury.</p> |
| EMERGENCY RESPONSE | <p>IF IN EYES: rinse cautiously with water for 15 minutes. Remove contact lens, if present and easy to do. Continue rinsing. Seek medical attention if necessary</p> <p>IF ON SKIN: gently wash with plenty of soap and water.</p> <p>Call a POISON CONTROL CENTER or doctor if symptoms develop or you feel unwell.</p> |
| PRODUCT STORAGE | <p>The storage area must be protected by properly designed containment to prevent the release of product to groundwater or sewers.</p> <p>Keep container tightly closed when not in use.</p> <p>Store in a well ventilated area.</p> |
| PRODUCT DISPOSAL | <p>DISPOSE of product and containers in accordance with all applicable local, state, federal, and international regulations.</p> |

HAZARDS NOT OTHERWISE CLASSIFIED

PYROPHORIC GASES | Not applicable

SIMPLE ASPHYXIANTS | Not applicable

COMBUSTIBLE DUST | In the form offered, formation of a combustible dust cloud is unlikely. However, the user should implement measures to prevent formation of a dust cloud in the event that processing of this product is capable of generating a fine dispersion of solid particles.

| Dust Classification | Minimum Ignition Energy (mJ) | Pmax (bar-g) | Rmax (bar/s) | Kst (bar-m/s) | Explosion Severity |
|---|------------------------------|--------------|--------------|---------------|--------------------|
| Unknown (material has not been tested for combustibility) | | | | | |

Definitions for dust classifications are found in OSHA Instruction CPL 03-00-008 *Combustible Dust National Emphasis Program (reissued)* March 11, 2008, Appendix E, Section 5

Other Known Hazards | None

FOR INFORMATION REGARDING ENVIRONMENTAL GHS CLASSIFICATION, REFER TO SECTION 12 BELOW

SECTION 3: COMPOSITION/INFORMATION on INGREDIENTS

| Chemical Name | Common Name | CAS Number | Concentration (%) |
|---------------|-------------|------------|-------------------|
|---------------|-------------|------------|-------------------|

Nafto[2,1-b]furan, dodecahydro-
3a,6,6,9a-tetrametil-,
(3aR,5aS,9aS,9bR)-

(-)-Norlabdane oxide

6790-58-5

~ 100

If any items in the table above are described as CONFIDENTIAL, Kao Specialties Americas LLC considers this information to constitute a Trade Secret.

SECTION 4: FIRST-AID MEASURES

EYES

Remove contact lens immediately, if present and easy to remove. Immediately flush eyes with plenty of water for at least 15 minutes. If necessary, seek medical attention.

SKIN

For skin contact, wash immediately with soap and water. If necessary, seek medical attention.

INGESTION

If the material is swallowed, get immediate medical attention or advice.

INHALATION

If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen.

SYMPTOMS of EXPOSURE

None known.

NOTES to PHYSICIAN

Provide general supportive measures and treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE PROPERTIES

Refer to SECTION 9: Physical and Chemical Properties

HAZARDOUS PRODUCTS of COMBUSTION

Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

PROPERTIES THAT COULD INCREASE FIRE or EXPLOSION HAZARD

Product presents a suspected combustible dust hazard. Dispersion in air of this product at sufficient concentration may form explosive mixture.

EXTINGUISHING MEDIA

Powder, alcohol-resistant foam, CO2 & sand

FIRE-FIGHTING INSTRUCTIONS

Firefighters should wear full protective clothing including self contained breathing apparatus.

NFPA ratings are found in SECTION 16

SECTION 6: ACCIDENTAL RELEASE MEASURES

FOR ALL TRANSPORTATION ACCIDENTS, call Chemtrec at 800-424-9300 or 703-527-3887 for international collect calls.

RESPONSE TO SMALL SPILLS OF PRODUCT

| | |
|---------------------------------|---|
| SPILL CONTAINMENT | Stop the flow of material, if this is without risk. Contain the discharged material. |
| SPILL CLEANUP PROCEDURES | Eliminate ignition sources including sources of electrical, static or frictional sparks. Vacuum or sweep up material and place in a disposal container. |
| REQUIRED EQUIPMENT | Shovel the material into waste container. |
| ADDITIONAL INFORMATION | No other spill procedures necessary. |

RESPONSE TO LARGE SPILLS OF PRODUCT

| | |
|---------------------------------|--|
| SPILL CONTAINMENT | Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent liquid from entering sewers. Keep out of drains and water courses. |
| SPILL CLEANUP PROCEDURES | Eliminate ignition sources including sources of electrical, static or frictional sparks. Avoid the generation of dusts during clean-up. Use water mist on the spilled material to wet surfaces and prevent dusting. Vacuum or sweep up material and place in a disposal container. Thoroughly wash the area with water after a spill or leak clean-up. |
| REQUIRED EQUIPMENT | Any equipment which presents a risk of accumulating static electricity should be properly grounded/bonded when used in the clean-up of this material. Wear appropriate protective equipment and clothing during clean-up. |
| ADDITIONAL INFORMATION | Surfaces may become slippery after spillage. Have emergency equipment readily available. Remove soiled clothing and laundry before reuse. |

SECTION 7: HANDLING AND STORAGE

**HANDLING
REQUIREMENTS**

DUE TO THE POTENTIAL FOR COMBUSTIBLE DUST EXPLOSION, avoid conditions which may result in formation of a dust cloud. Implement best housekeeping practices to prevent accumulation of this product on surfaces. Do not use compressed air or nitrogen to remove material accumulations from surfaces. Equipment used to remove accumulated product should be protected against static ignition. Keep away from sources of ignition. As with all chemicals, good industrial hygiene practices should be followed when handling this material. Do not get this material in your eyes, on your skin, or on your clothing. Wash thoroughly after handling. Do not cut or weld on empty drums. Sufficient vapors from residues may be present to cause explosion and serious injury and/or death. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or promptly disposed of.

**STORAGE
REQUIREMENTS**

Keep the container tightly closed and in a cool, well-ventilated place. Eliminate all sources of ignition. Guard against dust accumulation of this material. Storage area should be protected by appropriately designed containment to prevent release to groundwater or sewers.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**ENGINEERING
CONTROLS**

Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits. Use explosion-proof equipment if high dust/air concentrations are possible.

PERSONAL PROTECTIVE EQUIPMENT

**EYE/FACE
PROTECTION**

Wear chemical goggles.

HAND PROTECTION

Use impervious gloves.

SKIN PROTECTION

Normal work clothing (long sleeved shirts and long pants) is recommended.

**RESPIRATORY
PROTECTION**

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever there may be potential for airborne exposure.

OTHER

Eyewash fountains and emergency showers are required.

EXPOSURE LIMITS

| CHEMICAL | CASRN | PERCENT | LIMITS | AGENCY |
|----------|-------|---------|--------|--------|
|----------|-------|---------|--------|--------|

OSHA: No exposure limits established for this product

ACGIH: No exposure limits established for this product

SECTION 9: PHYSICAL and CHEMICAL PROPERTIES

| | | | |
|--|-----------------------------|------------------------------------|--------------------------|
| APPEARANCE @ 20°C | White Flakes | ODOR | Characteristic odor |
| ODOR THRESHOLD | No data available | pH | No information available |
| VAPOR DENSITY | No data available | VAPOR PRESSURE | No data available |
| EVAPORATION RATE | No data available | RELATIVE DENSITY | 0.44g/mL @ 20°C |
| MELTING POINT (°C) | 67°C - 77°C | WATER SOLUBILITY | Soluble |
| INITIAL BOILING POINT (°C) | No data available | BOILING RANGE (°C) | No data available |
| PARTITION COEFFICIENT (N-OCTANOL/WATER) | No data available | VISCOSITY | No data available |
| DECOMPOSITION TEMPERATURE | No data available | FLAMMABILITY CLASSIFICATION | CLASS IIIB |
| FLASH POINT (°C) | 164°C Cleveland Open Cup | AUTO-IGNITION TEMPERATURE | No data available |
| UPPER EXPLOSIVE LIMIT | No data available | LOWER EXPLOSIVE LIMIT | No data available |

SECTION 10: STABILITY and REACTIVITY

CHEMICAL STABILITY | Stable under normal conditions.

CONDITIONS to AVOID | Avoid dispersion of dust in air.

INCOMPATIBLE MATERIALS (Reactivity) | None known.

INCOMPATIBLE MATERIALS (Storage & Transport) | No information available.

HAZARDOUS DECOMPOSITION PRODUCTS | None known.

HAZARDOUS POLYMERIZATION | Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE EFFECTS

EYE EFFECTS | No significant eye irritation can be expected from contact with this product.

SKIN EFFECTS | Not expected to be a primary skin irritant.

ACUTE ORAL EFFECTS (INGESTION) | Not a likely route of entry.

ACUTE INHALATION EFFECTS | Low vapor pressure makes inhalation unlikely at standard temperatures and pressures.

TARGET ORGANS | No known effects.

CHRONIC EFFECTS

MUTAGENICITY | Ames Test Negative

TERATOLOGY | No data available for this product.

REPRODUCTIVE and DEVELOPMENTAL TOXICITY | No information available.

CARINOGENICITY

| CHEMICAL NAME | DATA | AGENCY | LIST |
|---|------|--------|------|
| None of the components of this product are listed on the OSHA Possible or Select Carcinogens Lists. | | | |
| None of the components of this product are listed on the ACGIH Carcinogens List. | | | |
| No limits established for this product by the International Agency for Research on Cancer (IARC). | | | |
| None of the components of this product are listed on the NTP Known or Suspected Carcinogens List. | | | |

LETHAL DOSE (LD50 & LC50) DATA

LD50 ORAL | LD50 Oral Rat > 2000 mg/kg

MEDICAL CONDITIONS AGGRAVATED by EXPOSURE | No information available.

| | |
|--|---|
| ROUTES of ENTRY | Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. |
| OTHER TOXICOLOGICAL INFORMATION | Skin Corrosion/Irritation: 100%, 4 hr. semi-occluded application (OECD404): Non Irritant Serious Eye Damage/Irritation: 100%, OECD Guidelines No.405: Non Irritant Skin Sensitization: Guinea Pig, Guinea Pig Maximization Test: Negative |

SECTION 12: ECOLOGICAL INFORMATION

UN GHS AQUATIC TOXICITY CLASSIFICATION INFORMATION

| | |
|--|--|
| AQUATIC TOXICITY CLASSIFICATION | Not classified as hazardous to aquatic environment |
| SIGNAL WORD | Not applicable |
| HAZARD PICTOGRAM | Not applicable |
| HAZARD STATEMENT | Not applicable |
| PREVENTION | Not applicable |
| RESPONSE | Not applicable |
| DISPOSAL | Not applicable |

ADDITIONAL ENVIRONMENTAL INFORMATION

| | |
|---|-------------------------------------|
| AQUATIC TOXICITY | 96 hr LC50 > 100 mg/L |
| ECOTOX. INFORMATION | None determined |
| ENVIRONMENTAL FATE | No data available for this product. |
| BIOLOGICAL OXYGEN DEMAND (BOD5), g/g | No data available |
| CHEMICAL OXYGEN DEMAND (COD), g/g | No data available |
| PERSISTENCE & DEGRADABILITY | No information available. |
| BIOACCUMULATION | No information available |

SECTION 13: DISPOSAL CONSIDERATIONS

| | |
|--|---|
| WASTE DESCRIPTION | Wastes must be tested using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes. |
| GENERAL DISPOSAL CONSIDERATIONS | Clean up and dispose of waste in accordance with all federal, state, and local environmental regulations. |
| DISPOSAL of EMPTY CONTAINERS | Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. |

| RCRA COMPONENT | CASRN | DATA |
|---|-------|------|
| No limits established for this product. | | |

SECTION 14: TRANSPORT INFORMATION

| | US DOT | IATA | IMDG |
|---|---|------------------------|------------------------|
| UN NUMBER | Not applicable | Not applicable | Not applicable |
| UN PROPER SHIPPING NAME | Non-hazardous material | Non-hazardous material | Non-hazardous material |
| TRANSPORT HAZARD CLASS(ES) | Not applicable | Not applicable | Not applicable |
| PACKING GROUP | Not applicable | Not applicable | Not applicable |
| REPORTABLE QUANTITY (RQ) | No reportable quantity for this product | | |
| EMERGENCY RESPONSE GUIDEBOOK (ERG) REFERENCE | Not applicable | | |
| MARINE POLLUTANT | None | | |

SECTION 15: REGULATORY INFORMATION

| | |
|--|--|
| TOXIC SUBSTANCES CONTROL ACT (TSCA) | This product is listed on the U.S. EPA TSCA Inventory. |
|--|--|

EXPORT NOTIFICATIONS

This product is not subject to TSCA 12B Export Notification requirements.

SIGNIFICANT NEW USE RULE (SNUR)

This material is not subject to a Significant New Use Rule under the US Toxic Substances Control Act.

INTERNATIONAL CHEMICAL INVENTORIES

All of the components of this product are listed on the following inventories:

| | | | |
|---------------|-------------|-----|------------------------|
| DSL | Canada | Yes | |
| NDSL | Canada | No | |
| ENCS | Japan | Yes | Registry No. 5-3339 |
| EINECS | Europe | Yes | Registry No. 229-861-2 |
| ELINCS | Europe | No | |
| IECSC | China | Yes | |
| PICCS | Philippines | Yes | |
| ECL | Korea | Yes | Registry No. KE-12821 |
| AICS | Australia | Yes | |

EMERGENCY PLANNING and COMMUNITY RIGHT TO KNOW ACT (EPCRA)**40 CFR PART 355, APPENDIX A**

| EHS COMPONENTS | CASRN | PERCENT | TPQ POUNDS and RQ |
|---|--------------|----------------|--------------------------|
| No limits established for this product. | | | |

| 313 COMPONENTS | CASRN | PERCENT | REPORTING LIMIT |
|---|--------------|----------------|------------------------|
| No limits established for this product. | | | |

| CERCLA/SARA COMPONENTS | CASRN | PERCENT | REPORTING LIMIT |
|---|--------------|----------------|------------------------|
| No limits established for this product. | | | |

| | | |
|---|-----------------|----|
| EPCRA SECTION 311/312 CLASSIFICATION | ACUTE | No |
| | CHRONIC | No |
| | FIRE | No |
| | PRESSURE | No |
| | REACTIVE | No |

OTHER FEDERAL REGULATIONS

The following components are identified under the Clean Air Act HON-Rule for SOCMIs chemicals:

| COMPONENT NAME | CASRN |
|-------------------------|-------|
| No regulated components | |

The following components are identified under the Clean Air Act (VOCs in SOCMIs chemicals):

| COMPONENT NAME | CASRN |
|-------------------------|-------|
| No regulated components | |

The following components are identified under the Clean Air Act as Hazardous Air Pollutants (HAP)

| COMPONENT NAME | CASRN |
|-------------------------|-------|
| No regulated components | |

The following components are identified under the Clean Air Act HON-Rule Hazardous Air Pollutants (HAP)

| COMPONENT NAME | CASRN |
|-------------------------|-------|
| No regulated components | |

The following components are identified under the Clean Water Act:

| COMPONENT NAME | CASRN | LIST NAME |
|---|-------|-----------|
| No limits established for this product. | | |

STATE RIGHT-TO-KNOW INFORMATION:

| COMPONENT NAME | CASRN | STATE | List Name |
|----------------|-------|-------|-----------|
|----------------|-------|-------|-----------|

If the STATE RIGHT-TO-KNOW INFORMATION table above is empty than none of the components of this product are included on the state right-to-know regulatory lists for California, Florida, Massachusetts, Michigan, Pennsylvania, or New Jersey.

SECTION 16: OTHER INFORMATION

To the best of the manufacturer's knowledge, the information contained herein is accurate. However, neither the manufacturer, nor any of its affiliates, make any representations or warranties (expressed or implied), nor assumes any liability (including liability for any direct, incidental, consequential, or other damages) with respect to the accuracy or completeness of the information contained herein. Such information may be (without limitation) invalid if the specified material is used in combination with another, in a particular

process, or under unusual conditions. Determination of suitability of any material for any given purpose is the sole responsibility of the user who assumes all risk and responsibility therefore. All materials may present unknown hazards and should be used with appropriate caution. The manufacturer cannot and does not guarantee that the hazards described herein are the only ones that exist.

| | |
|-------------------------|--|
| SDS GENERATED BY | PSIMCOX |
| SDS VERSION DATE | 5/18/2015 3:50:31 PM |
| SDS APPROVED BY | Patrick B. Simcox Manager – Health, Safety, & Environmental e-mail: psimcox@ksallc.com |

| | |
|------------------------|---|
| MANUFACTURER(S) | KAO CORPORATION, S.A. Puig dels Tudons, 10 BARBERA DEL VALLES Barcelona, Spain 08210 |
|------------------------|---|

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) HAZARD RATINGS

| | |
|---------------------|---|
| HEALTH | 1 |
| FLAMMABILITY | 1 |
| REACTIVITY | 0 |

Hazardous Material Identification System (HMIS) Hazard Ratings

| | |
|----------------------------|---|
| HEALTH | 1 |
| FLAMMABILITY | 1 |
| REACTIVITY | 0 |
| PERSONAL PROTECTION | D |

The following components of this product are listed on the Canadian WHMIS Ingredient Disclosure List (IDL):

| COMPONENT | CASRN | PERCENT | MINIMUM CONCENTRATION |
|-----------|-------|---------|-----------------------|
|-----------|-------|---------|-----------------------|

No regulatory limits established for this product.

END OF DOCUMENT