



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	ALDEHYDE C-12 MNA
PRODUCT CASRN	110-41-8
PRODUCT DESCRIPTION	Saturated acyclic aldehyde
SDS DOCUMENT No.	K00645
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	Skin Sensitisation Category 1B Skin Corrosion/Irritation Category 2
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SIGNAL WORD	Warning
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HAZARD STATEMENTS	Causes skin irritation. May cause an allergic skin reaction.
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HAZARD PICTOGRAMS	
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RECOMMENDED SAFETY PRECAUTIONS

INJURY PREVENTION	Avoid breathing dust/fume/gas/mist/vapours/spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear chemical-resistant gloves and clothing, eye protection and face protection.
EMERGENCY RESPONSE	IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
PRODUCT STORAGE	The storage area must be protected by properly designed containment to prevent the release of product to groundwater or sewers. Keep container tightly closed when not in use. Store in a well ventilated area.
PRODUCT DISPOSAL	Dispose of contents and container in accordance with local, national, and international regulations for hazardous wastes.

HAZARDS NOT OTHERWISE CLASSIFIED

PYROPHORIC GASES	Not applicable
SIMPLE ASPHYXIANTS	Not applicable
COMBUSTIBLE DUST	Not applicable

Dust Classification	Minimum Ignition Energy (mJ)	Pmax (bar-g)	Rmax (bar/s)	Kst (bar-m/s)	Explosion Severity
Not Applicable					

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

SECTION 3: COMPOSITION/INFORMATION on INGREDIENTS

Chemical Name	Common Name	CAS Number	Concentration (%)
Undecanal, 2-methyl-	2-Methylundecanal	110-41-8	~ 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	Immediately take off all contaminated clothing. 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	Move person to non-contaminated air. 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	No known hazards.
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. Eliminate all sources of ignition or flammables that may come into contact with a spill of this material.
SPILL CLEANUP PROCEDURES	Absorb spill with inert material. Shovel material into appropriate container for disposal.
REQUIRED EQUIPMENT	Shovel the material into waste container.
ADDITIONAL INFORMATION	CAUTION! If product is absorbed on paper or cloth, arrange for disposal by incineration promptly to prevent spontaneous combustion.

RESPONSE TO LARGE SPILLS OF PRODUCT

SPILL CONTAINMENT	Eliminate all sources of ignition or flammables that may come into contact with a spill of this material. Dike the spilled material, where this is possible. Prevent liquid from entering sewers. Keep out of drains and water courses. Stop the flow of material, if this is without risk.
SPILL CLEANUP PROCEDURES	Absorb spill with inert material. Shovel material into appropriate container for disposal. Thoroughly wash the area with water after a spill or leak clean-up. Dispose of spent absorbent in an approved industrial waste landfill.
REQUIRED EQUIPMENT	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 launder before reuse. CAUTION! If product is absorbed on paper or cloth, arrange for disposal by incineration promptly to prevent spontaneous combustion.

SECTION 7: HANDLING AND STORAGE

HANDLING REQUIREMENTS	As with all chemicals, good industrial hygiene practices should be followed when handling this material. Use this product with adequate ventilation. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or promptly disposed of. May cause spontaneous combustion when absorbed in paper or cloth. To avoid autoignition, used absorbents should be kept wet with water.
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STORAGE REQUIREMENTS

Storage area should be protected by appropriately designed containment to prevent release to groundwater or sewers.
Keep this material in a cool, dark, well-ventilated place.
Do not store this material in open or unlabeled containers.
Do not store with oxidizing agents or alkalies.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**ENGINEERING CONTROLS**

Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT**EYE/FACE PROTECTION**

Wear chemical goggles.

HAND PROTECTION

Use impervious gloves.

SKIN PROTECTION

Use of protective coveralls and long sleeves 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	Clear colorless to light yellow liquid.	ODOR	Characteristic odor
ODOR THRESHOLD	No data available	pH	No data available
VAPOR DENSITY	No data available	VAPOR PRESSURE	0.045 mmHg @ 20°C
EVAPORATION RATE	No data available	RELATIVE DENSITY	0.83g/mL @ 20°C
MELTING POINT (°C)	No data available	WATER SOLUBILITY	Poor in Water.

INITIAL BOILING POINT (°C)	232.0°C	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)	113°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. This product gradually oxidizes when exposed to air.
CONDITIONS to AVOID	Avoid contact with strong alkali and oxidizers. May combust spontaneously when finely distributed
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	This product is irritating to the skin. Prolonged contact with this product may cause allergic skin sensitization reactions.

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

No information available

TERATOLOGY

No data available for this product.

REPRODUCTIVE and DEVELOPMENTAL TOXICITY

No information available.

CARCINOGENICITY

CHEMICAL NAME	DATA	AGENCY	LIST
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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 > 5 g/kg

LD50 DERMAL

LD50 Dermal Rabbit > 10 g/kg

LC50 INHALATION

No information available

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.

SECTION 12: ECOLOGICAL INFORMATION

UN GHS AQUATIC TOXICITY CLASSIFICATION INFORMATION

AQUATIC TOXICITY CLASSIFICATION | Acute 1
Chronic 1

SIGNAL WORD | Warning

HAZARD PICTOGRAM



HAZARD STATEMENT | Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

PREVENTION | Avoid release to the environment.

RESPONSE | Collect spillage.

DISPOSAL | Dispose of contents and container in accordance with local, national, and international regulations for hazardous wastes.

ADDITIONAL ENVIRONMENTAL INFORMATION

ECOTOXICITY 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	UN3082	UN3082	UN3082
UN PROPER SHIPPING NAME	Environmentally hazardous substances, liquid, n.o.s.	Environmentally hazardous substances, liquid, n.o.s.	Environmentally hazardous substances, liquid, n.o.s.
TECHNICAL NAME	containing 2-methyl undecanal	containing 2-methyl undecanal	containing 2-methyl undecanal
TRANSPORT HAZARD CLASS(ES)	9	9	9
PACKING GROUP	III	III	III
REPORTABLE QUANTITY (RQ)	No reportable quantity for this product		
EMERGENCY RESPONSE GUIDEBOOK (ERG) REFERENCE	171		
MARINE POLLUTANT	MARINE POLLUTANT		

SECTION 15: REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA)	This product is listed on the U.S. EPA TSCA Inventory.
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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. 2-494
EINECS	Europe	Yes	Registry No. 203-765-0
ELINCS	Europe	No	
IECSC	China	Yes	
PICCS	Philippines	Yes	
ECL	Korea	Yes	Registry No.KE-25399
AICS	Australia	Yes	
TCSI	Taiwan	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	Yes
	CHRONIC	Yes
	FIRE	No
	PRESSURE	No
	REACTIVE	No

OTHER FEDERAL REGULATIONS

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

COMPONENT NAME	CASRN
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No regulated components

The following components are identified under the Clean Air Act (VOCs in SOCM I 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
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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 Florida, Massachusetts, Michigan, Pennsylvania, or New Jersey.

CALIFORNIA SAFE WATER and TOXIC ENFORCEMENT ACT of 1986 (Proposition 65)

COMPONENT NAME	CASRN	CONCENTRATION [‡]	LIST DATA
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This product contains no components which are listed on California's Proposition 65 lists.

[‡] CONCENTRATIONS EXPRESSED IN % UNLESS UNITS ARE SPECIFIED

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	4/5/2016 1:31:57 PM
SDS APPROVED BY	Patrick B. Simcox Manager – Health, Safety, & Environmental e-mail: psimcox@ksallc.com

MANUFACTURER(S)	Kao Corporation 1-3, Bunka 2-chome, Sumida-ku Tokyo, Japan 131-8501 Phone: 011-81-3-5630-7700 KAO CORPORATION, S.A. Puig dels Tudons, 10 BARBERA DEL VALLES Barcelona, Spain 08210
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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
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No regulatory limits established for this product.

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