



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	EMULGEN MS-110
PRODUCT CASRN	68439-51-0
PRODUCT DESCRIPTION	Nonionic surface active agent
SDS DOCUMENT No.	K02090
RECOMMENDED USES	This product is intended for use as a surface-active agent in industrial and commercial 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	Serious Eye Damage/Eye Irritation Category 1
SIGNAL WORD	Danger
HAZARD STATEMENTS	Causes serious eye damage.

**HAZARD
PICTOGRAMS**



RECOMMENDED SAFETY PRECAUTIONS

INJURY PREVENTION	Wear chemical-resistant gloves and clothing, eye protection and face protection.
EMERGENCY RESPONSE	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 or doctor.
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 product and containers in accordance with all applicable local, state, federal, and international regulations.

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
--------------------------------	------

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

SECTION 3: COMPOSITION/INFORMATION on INGREDIENTS

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

Product: EMULGEN MS-110
SDS ID: K02090
Effective Date: 12-14-2015
Created Date: 10-15-1999

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. In case of contact, immediately flush eyes with large amounts of water, continuing to flush for 15 minutes. After flushing eyes, call a physician.

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**

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.
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	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	Absorb spill with inert material. Shovel material into appropriate container for disposal. Wear appropriate protective equipment and clothing during clean-up. 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	No additional information on equipment.
ADDITIONAL INFORMATION	Surfaces may become slippery after spillage. Have emergency equipment readily available. Remove soiled clothing and launder before reuse.

SECTION 7: HANDLING AND STORAGE

HANDLING REQUIREMENTS	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. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or promptly disposed of.
STORAGE REQUIREMENTS	Do not store this material in open or unlabeled containers. To protect purity, store under dry nitrogen gas.

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

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	Clear colorless to light yellow liquid.	ODOR	Slightly characteristic odor
ODOR THRESHOLD	No data available	pH	6 (5% solution)
VAPOR DENSITY	No data available	VAPOR PRESSURE	No data available
EVAPORATION RATE	No data available	RELATIVE DENSITY	1.01g/mL @ 20°C
MELTING POINT (°C)	-8°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	131 mPa-s @ 20°C

DECOMPOSITION TEMPERATURE	No data available	FLAMMABILITY CLASSIFICATION	CLASS IIIB
FLASH POINT (°C)	216°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 | None known

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 | This product is severely irritating to the eyes. Vapors may also produce eye irritation.

SKIN EFFECTS | Prolonged and/or repeated skin contact may result in mild irritation or redness.

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

ACUTE INHALATION EFFECTS | This product may cause slight irritation to the respiratory system.

TARGET ORGANS | No known effects.

CHRONIC EFFECTS

MUTAGENICITY	Ames Test (TA98, TA100) Negative
TERATOLOGY	No data available for this product.
REPRODUCTIVE and DEVELOPMENTAL TOXICITY	No information available.

CARCINOGENICITY

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 (male) (data on similar product)
------------------	---

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: Rabbit, 100%, 4 hr. semi-occluded application (OECD404): Not Classified (data on similar product) Skin Sensitization: Guinea Pig, Guinea Pig Maximization Test: Negative (data on similar product) Skin Sensitization: Guinea Pig, Guinea Pig Buehler Test: Negative (data on similar product) Skin Corrosion/Irritation: Guinea Pig, 10% in water, 4 times repeated application test: Final Mean Score = 1.4 (slight to apparent erythema)
--	---

SECTION 12: ECOLOGICAL INFORMATION

UN GHS AQUATIC TOXICITY CLASSIFICATION INFORMATION

AQUATIC TOXICITY CLASSIFICATION	Acute 2
--	---------

SIGNAL WORD	Not applicable
HAZARD PICTOGRAM	Not applicable
HAZARD STATEMENT	Toxic to aquatic life.
PREVENTION	Avoid release to the environment.
RESPONSE	Not applicable
DISPOSAL	Dispose of contents and container in accordance with local, national, and international regulations for hazardous wastes.

ADDITIONAL ENVIRONMENTAL INFORMATION

AQUATIC TOXICTY (fish)	96 hr LC50 Red Killfish : 3.1 mg/L
ECOTOXICITY INFORMATION	None determined
ENVIRONMENTAL FATE	This product is Readily Biodegradable.
BIOLOGICAL OXYGEN DEMAND (BOD5), g/g	No data available
CHEMICAL OXYGEN DEMAND (COD), g/g	COD(Mn) : 0.88 g/g (Data on similar product)
PERSISTENCE & DEGRADABILITY	CO2 evolution test (OECD301B) : 80 % (28 days) (Data on similar product)
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. 7-97

EINECS	Europe	Yes	Polymer
ELINCS	Europe	No	
IECSC	China	Yes	
PICCS	Philippines	Yes	
ECL	Korea	Yes	Registry No. KE-13425
AICS	Australia	Yes	
TCSI	Taiwan	Not evaluated	

**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	No
	FIRE	No
	PRESSURE	No
	REACTIVE	No

OTHER FEDERAL REGULATIONS

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

COMPONENT NAME	CASRN
No regulated components	

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

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

COMPONENT NAME	CASRN	CONCENTRATION [‡]	LIST DATA
----------------	-------	----------------------------	-----------

[‡] 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	HAZEMS
SDS VERSION DATE	12/14/2015 6:12:20 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
------------------------	--

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) HAZARD RATINGS

HEALTH	3
FLAMMABILITY	1
REACTIVITY	0

Hazardous Material Identification System (HMIS) Hazard Ratings

HEALTH	3
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
-----------	-------	---------	-----------------------

END OF DOCUMENT