SAFETY DATA SHEET

Section 1. Identification

Product identifier : Additin M 97.001

Material Number : 57563804

Identified uses : Additive for lubricants

Supplier/Manufacturer : LANXESS Corporation
Rhein Chemie Additives
111 RIDC Park West Drive
Pittsburgh, PA 15275-1112
USA

For information: US/Canada (800) LANXESS
International +1 412 809 1000

In case of emergency : Chemtrec (800) 424-9300
International (703) 527-3887
Lanxess Emergency Phone (800) 410-3063.

Section 2. Hazards identification

HAZCOM Standard Status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Physical state : Liquid.

Color : Brown.

Classification of the substance or mixture : SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A

Hazard pictograms :

Signal word : Warning

Hazard statements : Causes serious eye irritation. Causes skin irritation.

Hazard Not Otherwise Classified (HNOC) : Causes digestive tract burns.

Precautionary statements

Prevention : Wear protective gloves and eye/face protection. Wash hands thoroughly after handling.

Response : IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Not applicable.

Disposal : Not applicable.

Supplemental label elements : Do not taste or swallow. Wash thoroughly after handling. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink. Corrosive to digestive tract

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Amines, C12-14-tert-alkyl, mixed sec-Bu and iso-Bu phosphates	10 - ≤25	103213-64-5
2-Ethylhexanol Phosphate	<3	12645-31-7
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	≤5	72623-86-0

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of first aid measures

Eye contact : Check for and remove any contact lenses. Get medical attention. In case of contact, flush eyes with plenty of water for at least 20 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If not breathing, if breathing is irregulor or respiratory arrest occurs, provide artifical respiration, or oxygen by a trained professional, using a pocket type respirator.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. In case of contact, flush skin with plenty of water for at least 20 minutes.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.

Skin contact : Causes skin irritation.

Ingestion : Corrosive to the digestive tract. Causes burns. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Causes irritation with symptoms of reddening, tearing, stinging, and swelling.

Inhalation : No specific data.

Skin contact : Causes irritation with symptoms of reddening, itching, and swelling.

Ingestion : Corrosive with symptoms of coughing, burning, ulceration, and pain. May cause irritation; Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

Potential chronic health effects

No known significant effects or critical hazards.

Notes to physician : Treat symptomatically. No specific treatment.

Section 4. First aid measures

Protection of first-aiders : No special measures required.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire. In case of fire, use water spray (fog), foam or dry chemical.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides
phosphorus oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal. Prevent entry into sewers, water courses, basements or confined areas.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Remove contaminated clothing and protective equipment before entering eating areas. Workers should wash hands and face before eating, drinking and smoking. Put on appropriate personal protection equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Section 7. Handling and storage

Conditions for safe storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Exposure limits
Amines, C12-14-tert-alkyl, mixed sec-Bu and iso-Bu phosphates 2-Ethylhexanol Phosphate Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	None None **OSHA PEL (United States, 6/2016).** TWA: 5 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2016).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction

Recommended monitoring procedures

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. A NIOSH approved air purifying respirator with organic vapor cartridges and particulate prefilter can be used to minimize exposure.

Skin protection : Permeation resistant clothing and foot protection. Permeation resistant gloves.

Eye/face protection : chemical splash goggles.

Medical Surveillance : Not available.

Section 9. Physical and chemical properties

Physical state : Liquid.

Color : Brown.

Odor : Not available.

Odor threshold : Not available.

pH : 4.1

Boiling point : >200 °C (1013 hPa)

Melting point : Not available.

Flash point : Closed cup: >93.3°C (>199.9°F)

Evaporation rate : Not available.

Explosion limits : Not available.

Vapor pressure : Not available.

Density : 0.983 g/cm³

Section 9. Physical and chemical properties

Specific gravity (Relative density) : Not available.

Solubility in water : Immiscible in water.

Partition coefficient: n-octanol/water : Not available.

Vapor density : Not available.

Viscosity : Kinematic (40°C): 190 mm^2/s

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Extremes of temperature and direct sunlight.

Incompatible materials : oxidizing agents, reducing agents, acids and bases

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.

Skin contact : Causes skin irritation.

Ingestion : Corrosive to the digestive tract. Causes burns. Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Causes irritation with symptoms of reddening, tearing, stinging, and swelling.

Inhalation : No specific data.

Skin contact : Causes irritation with symptoms of reddening, itching, and swelling.

Ingestion : Corrosive with symptoms of coughing, burning, ulceration, and pain.
May cause irritation; Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

Potential chronic health effects

Short term exposure

Potential immediate effects : Not available.

Long term exposure

Potential delayed effects : Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	Test
Amines, C12-14-tert-alkyl, mixed sec-Bu and iso-Bu phosphates	LD50 Oral	Rat	1000 to 2000 mg/kg *Test results on an analogous product	-	-
2-Ethylhexanol Phosphate	LD50 Oral	Rat - Female	2500 mg/kg	-	OECD 423 Acute Oral toxicity - Acute Toxic Class Method
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	LD50 Oral	Rat	>5000 mg/kg	-	OECD 401 Acute Oral Toxicity
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	LD50 Dermal	Rabbit	>5000 mg/kg Extrapolation according to Regulation (EC) No. 440/2008	-	402 Acute Dermal Toxicity
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	LC50 Inhalation Dusts and mists	Rat	>5.53 mg/l	4 hours	OECD 403 Acute Inhalation Toxicity

Irritation/Corrosion

Conclusion/Summary

Skin : Amines, C12-14-tert-alkyl, mixed sec-Bu and iso-Bu phosphates:irritant
2-Ethylhexanol Phosphate:Corrosive to the skin. (OECD 404 Acute Dermal Irritation/ Corrosion)

Eyes : Amines, C12-14-tert-alkyl, mixed sec-Bu and iso-Bu phosphates:irritant
2-Ethylhexanol Phosphate:corrosive

Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2-Ethylhexanol Phosphate	Sub-acute NOEL Oral	Rat - Female	250 mg/kg bw/day	-
	Sub-acute NOEL Oral	Rat - Male	125 mg/kg bw/day	-

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Amines, C12-14-tert-alkyl, mixed sec-Bu and iso-Bu phosphates	-	Experiment: In vitro Subject: Bacteria	Negative
2-Ethylhexanol Phosphate	Ames test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476 *In vitro* Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Germ Metabolic activation: +/-	Negative
	Ames test	Experiment: In vitro Subject: Mammalian-Human Cell: Somatic Metabolic activation: +/-	Negative

Section 11. Toxicological information

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	Negative - Unreported -	Human	-	-

Product/ingredient name	CAS #	IARC	NTP	OSHA
Amines, C12-14-tert-alkyl, mixed sec-Bu and iso-Bu phosphates	103213-64-5	Not classified.	Not classified.	Not classified.
2-Ethylhexanol Phosphate	12645-31-7	Not classified.	Not classified.	Not classified.
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	72623-86-0	Not classified.	Not classified.	Not classified.

Reproductive toxicity

Product/ingredient name	Effects	Species	Dose	Exposure
2-Ethylhexanol Phosphate	-	Rat	Oral: 250 mg/kg bw/ day : NOEL	-

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
2-Ethylhexanol Phosphate	Negative - Oral	Rat - Male, Female	250 mg/kg NOAEL	-

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	Category 3	Not applicable.	Respiratory tract irritation

Acute toxicity estimates

Route	ATE value (Acute Toxicity Estimates)
Oral	5482.1 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Test	Result	Species	Exposure
Amines, C12-14-tert-alkyl, mixed sec-Bu and iso-Bu phosphates	-	Acute LC50 1 to 10 mg/l *Test results on an analogous product	Fish	96 hours
2-Ethylhexanol Phosphate	-	Acute EC50 117.4 mg/l Marine water	Daphnia - Acartia tonsa	48 hours
	-	Acute EL50 >100 mg/l	Daphnia - Daphnia magna	48 hours
	-	Acute IC50 15 mg/l WAF	Algae - Skeletonema costatum	72 hours
	-	Acute LC50 530 mg/l LL50	Fish - Cyprinodon variegatus	96 hours
	ISO 10253	Acute NOEC 10 mg/l	Algae - Skeletonema costatum	72 hours
	-	Acute NOELR 100 mg/l WAF /	Fish -	96 hours

Section 12. Ecological information

		LL50	Oncorhynchus mykiss	
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	OECD 202 *Daphnia* sp. Acute Immobilization Test	Acute EC50 >10000 mg/l	Crustaceans - Daphnia magna	48 hours
	OECD 203 Fish, Acute Toxicity Test	Acute LC50 >100 mg/l	Fish - Pimephales promelas	96 hours
	OECD 201 Alga, Growth Inhibition Test	Acute NOEC >100 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	OECD 211 *Daphnia Magna* Reproduction Test	Chronic NOEC 10 mg/l	Crustaceans - Daphnia magna	21 days

Conclusion/Summary : Not available.

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
2-Ethylhexanol Phosphate	OECD 301B Ready Biodegradability - CO_2 Evolution Test *	70.8 % - Readily - 28 days	-	-

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Amines, C12-14-tert-alkyl, mixed sec-Bu and iso-Bu phosphates	-	-	Not readily
2-Ethylhexanol Phosphate	-	-	Readily
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	-	-	Not readily

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Waste disposal should be in accordance with existing federal state, provincial and or local environmental controls laws.

RCRA classification : : If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	-	-	-	-		Not regulated.
IMDG Class	-	-	-	-		Not regulated.
IATA-DGR Class	-	-	-	-		Not regulated.

PG* : Packing group

RQ : 0 lbs

Section 15. Regulatory information

SARA 311/312 : Immediate (acute) health hazard

SARA Title III Section 302 Extremely Hazardous Substances : None

SARA Title III Section 313 Toxic Chemicals : None

US EPA CERCLA Hazardous Subtances (40 CFR 302.4) : None

State regulations

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections on the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropraite agency in your state.

Ingredient name	CAS number	State Code	Concentration (%)
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	MA - S, NJ - HS, PA - RTK HS	≤10
Distillates (petroleum), hydrotreated light paraffinic	64742-55-8	MA - S, NJ - HS	≤5
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	72623-86-0	MA - S, NJ - HS	≤5
fatty acid vegetable oil	Trade secret.		75 - 90
fatty acid compound	Trade secret.		25 - 50
Amines, C12-14-tert-alkyl, mixed sec-Bu and iso-Bu phosphates	103213-64-5		10 - ≤25
Aliphatic Alcohols with Alkydithio Thiadiazole Derivative	Trade secret.		≤5

Massachusetts Substances: MA - S
Massachusetts Extraordinary Hazardous Substances: MA - Extra HS
New Jersey Hazardous Substances: NJ - HS
Pennsylvania RTK Hazardous Substances: PA - RTK HS
Pennsylvania Special Hazardous Substances: PA - Special HS

California Prop. 65

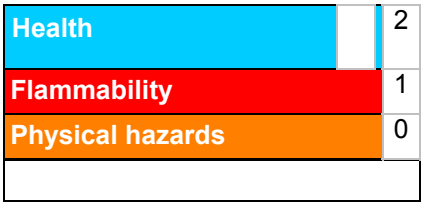
WARNING: This product contains a chemical known to the State of California to cause cancer.

Ingredient name	CAS #	Concentration (%)	Cancer	Reproductive
ethyl acrylate	140-88-5	<0.1	Yes	

U.S. Toxic Substances Control Act : Listed on the TSCA Inventory.

Section 16. Other information

Hazardous Material Information System :



0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme
***=Chronic**

The customer is responsible for determining the PPE code for this material. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.) :

0= Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

Our method of hazard communication is comprised of Product Labels and Safety Data Sheets. HMIS and NFPA ratings are provided as a customer service.

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Version : 1

Product Safety and Regulatory Affairs

Indicates information that has changed from previously issued version.

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