SAFETY DATA SHEET

Section 1. Identification

Product identifier : ADDITIN RC 4580

Material Number : 05055881

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 : Yellowish. Clear.

Classification of the substance or mixture : EYE IRRITATION - Category 2A
TOXIC TO REPRODUCTION (Unborn child) - Category 2

Hazard pictograms :

Signal word : Warning

Hazard statements : Causes serious eye irritation. Suspected of damaging the unborn child.

Hazard Not Otherwise Classified (HNOC) : None known.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/clothing and eye/face protection. Wash hands thoroughly after handling.

Response : IF exposed or concerned: 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 : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Hexanoic acid, 2-ethyl-, zinc salt (2:1) 2-Ethylhexanoic Acid	75 - 90 10 - ≤25	136-53-8 149-57-5

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 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.

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. 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 : No known significant effects or critical hazards.

Ingestion : 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 : No specific data.

Ingestion : May cause irritation; Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

Potential chronic health effects

Suspected of damaging the unborn child.

Notes to physician : Treat symptomatically. No specific treatment.

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 : Do not use water jet.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst. In the event of fire be aware of formation of noxious fumes. Vapors may form explosive mixtures with air.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/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 : Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. 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
Hexanoic acid, 2-ethyl-, zinc salt (2:1) 2-Ethylhexanoic Acid	None **ACGIH TLV (United States, 3/2016).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction and vapor

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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 : Yellowish. Clear.

Odor : Characteristic.

Odor threshold : Not available.

pH : Not available.

Boiling point : <200 °C (1013 hPa)

Melting point : <-60°C (<-76°F)

Flash point : Closed cup: 150°C (302°F) [DIN ISO 2592]

Evaporation rate : Not available.

Explosion limits : Not available.

Vapor pressure : Not available.

Density : 1.05 g/cm³

Section 9. Physical and chemical properties

Specific gravity (Relative density) : Not available.

Solubility in water : 5.586 g/l

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

Vapor density : Not available.

Viscosity : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : 160°C

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 : Reducing agents, oxidizing 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 : No known significant effects or critical hazards.

Ingestion : 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 : No specific data.

Ingestion : 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 : Suspected of damaging the unborn child.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Information on toxicological effects

Section 11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	Test
Hexanoic acid, 2-ethyl-, zinc salt (2:1)	LD50 Oral	Rat	3550 mg/kg	-	-
2-Ethylhexanoic Acid	LD50 Oral	Rat	3000 mg/kg	-	-
Hexanoic acid, 2-ethyl-, zinc salt (2:1)	LD50 Dermal	Rabbit	>5000 mg/kg	-	-
2-Ethylhexanoic Acid	LD50 Dermal	Rabbit	>2000 mg/kg	-	-
2-Ethylhexanoic Acid	LC50 Inhalation Vapor	Rat	2.36 mg/l	6 hours	-

Irritation/Corrosion

Conclusion/Summary

Skin : 2-Ethylhexanoic Acid:Mild skin irritation , Rabbit

Eyes : Hexanoic acid, 2-ethyl-, zinc salt (2:1):Irritant.
2-Ethylhexanoic Acid:Non-irritating

Mutagenicity

Product/ingredient name	Test	Experiment	Result
2-Ethylhexanoic Acid	Ames test	Experiment: In vitro Subject: Bacteria Metabolic activation: +/-	Negative

Carcinogenicity

Product/ingredient name	CAS #	IARC	NTP	OSHA
Hexanoic acid, 2-ethyl-, zinc salt (2:1)	136-53-8	Not classified.	Not classified.	Not classified.
2-Ethylhexanoic Acid	149-57-5	Not classified.	Not classified.	Not classified.

Reproductive toxicity

Product/ingredient name	Effects	Species	Dose	Exposure
2-Ethylhexanoic Acid	-	Rat - Female	Oral: 100 mg/kg NOAEL	14 days; 7 days per week

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
2-Ethylhexanoic Acid	Positive - Oral	Rat - Female	100 mg/kg NOAEL	14 days

Acute toxicity estimates

Route	ATE value (Acute Toxicity Estimates)
Oral	3431.7 mg/kg

Section 12. Ecological information

Toxicity

Section 12. Ecological information

Product/ingredient name	Test	Result	Species	Exposure
2-Ethylhexanoic Acid	-	Acute EC50 61 mg/l Fresh water	Algae - Scenedesmus subspicatus	72 hours
	-	Acute EC50 85.4 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 100 to 1000 mg/l	Fish - Leuciscus idus	96 hours
	203 Fish, Acute Toxicity Test	Acute LC50 180 mg/l Fresh water	Fish - Trout	48 hours

Conclusion/Summary : Not available.

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
2-Ethylhexanoic Acid	OECD 301E Ready Biodegradability - Modified OECD Screening Test	>70 % - 28 days	-	-

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2-Ethylhexanoic Acid	-	-	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

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
Delayed (chronic) health hazard

SARA Title III Section 302 Extremely Hazardous Substances : None

SARA Title III Section 313 Toxic Chemicals :

Ingredient name	CAS number	Concentration (%)
Hexanoic acid, 2-ethyl-, zinc salt (2:1)	136-53-8	75 - 90

US EPA CERCLA Hazardous Subtances (40 CFR 302.4) :

Ingredient name	CAS number	RQ
Hexanoic acid, 2-ethyl-, zinc salt (2:1)	136-53-8	NO_RQ

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 (%)
Hexanoic acid, 2-ethyl-, zinc salt (2:1)	136-53-8	NJ - HS, PA - RTK HS	75 - 90
2-Ethylhexanoic Acid	149-57-5	NJ - HS	10 - ≤25

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

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

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

Section 16. Other information

Hazardous Material Information System :

Health	*	2
Flammability		1
Physical hazards		0

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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Product Safety and Regulatory Affairs

Indicates information that has changed from previously issued version.

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