

SAFETY DATA SHEET



Section 1. Identification

Product identifier : ADDITIN RC 5570 A
Material Number : 57258310
Identified uses : Additive for lubricants
Supplier/Manufacturer : RHEIN CHEMIE CORPORATION
145 Parker Court
Chardon, Ohio 44024
USA


For information: US/Canada (800) LANXESS
International +1 412 809 1000
In case of emergency : Chemtrec 1-800-424-9300
International 1-703-527-3887.

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 : Amber.

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 1
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
TOXIC TO REPRODUCTION (Fertility) - Category 1B
TOXIC TO REPRODUCTION (Unborn child) - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (brain, kidneys and liver) - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 10.6%

Hazard pictograms : 

Signal word : Danger

Hazard statements : Causes severe skin burns and eye damage. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. (brain, kidneys, liver)

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

Precautionary statements

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

Response : Get medical attention if you feel unwell. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Storage : Store locked up.

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

Section 2. Hazards identification

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. Corrosive to the respiratory tract.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Monoethanolamine	10 - 15%	141-43-5
Boric acid	5 - 10%	10043-35-3

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** : Get medical attention immediately. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. In case of contact with eyes, flush eyes with plenty of water for at least 30 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. If not breathing, if breathing is irregular or respiratory arrest occurs, provide artificial respiration, or oxygen by a trained professional, using a pocket type respirator.
- Skin contact** : In case of contact, flush skin with plenty of water for at least 30 minutes. Get medical attention immediately. Immediately remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. 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. Chemical burns must be treated promptly by a physician. 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 damage.
- Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.
- Skin contact** : Causes severe burns.
- Ingestion** : Corrosive to the digestive tract. May cause burns to mouth, throat and stomach.

Over-exposure signs/symptoms

- Eye contact** : Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage.

Section 4. First aid measures

- Inhalation** : Corrosive with symptoms of coughing, burning, ulceration, and pain. May cause pulmonary edema with symptoms of breathing difficulty and tightness of chest.
- Skin contact** : Corrosive with symptoms of reddening, itching, swelling, burning and possible permanent damage.
- Ingestion** : Corrosive with symptoms of coughing, burning, ulceration, and pain.

Potential chronic health effects

May cause damage to organs through prolonged or repeated exposure. Suspected of damaging fertility. Suspected of damaging the unborn child.

- Notes to physician** : Treat symptomatically. No specific treatment.
- Protection of first-aiders** : If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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. Toxic and irritating gases/fumes may be given off during burning or thermal decomposition. Water runoff from fire fighting may be corrosive.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
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. Do not breathe 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 breathe vapor or mist. Do not ingest. 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.
- Conditions for safe storage** : Store between the following temperatures: 0 to 50°C (32 to 122°F). 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
Monoethanolamine	ACGIH TLV (United States, 4/2014). TWA: 3 ppm 8 hours. TWA: 7.5 mg/m ³ 8 hours. STEL: 6 ppm 15 minutes. STEL: 15 mg/m ³ 15 minutes. OSHA PEL (United States, 2/2013). TWA: 3 ppm 8 hours. TWA: 6 mg/m ³ 8 hours.
Boric acid	ACGIH TLV (United States, 4/2014). TWA: 2 mg/m ³ 8 hours. Form: Inhalable fraction STEL: 6 mg/m ³ 15 minutes. Form: Inhalable fraction

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.

Section 8. Exposure controls/personal protection

- Eye/face protection** : chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. If contact with product is possible, wear safety glasses with side shields.
- Medical Surveillance** : Not available.

Section 9. Physical and chemical properties

- Physical state** : Liquid.
- Color** : Amber.
- Odor** : Characteristic.
- Odor threshold** : Not available.
- pH** : Not available.
- Boiling point** : Not available.
- Melting point** : Not available.
- Flash point** : Not available.
- Evaporation rate** : Not available.
- Explosion limits** : Not available.
- Vapor pressure** : Not available.
- Density** : 1.112 g/cm³
- Specific gravity (Relative density)** : Not available.
- Partition coefficient: n-octanol/water** : Not available.
- Vapor density** : Not available.
- Viscosity** : Not available.
- 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** : 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 damage.
- Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.
- Skin contact** : Causes severe burns.
- Ingestion** : Corrosive to the digestive tract. May cause burns to mouth, throat and stomach.
- Symptoms related to the physical, chemical and toxicological characteristics**
- Eye contact** : Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage.

Section 11. Toxicological information

- Inhalation** : Corrosive with symptoms of coughing, burning, ulceration, and pain. May cause pulmonary edema with symptoms of breathing difficulty and tightness of chest.
- Skin contact** : Corrosive with symptoms of reddening, itching, swelling, burning and possible permanent damage.
- Ingestion** : Corrosive with symptoms of coughing, burning, ulceration, and pain.

Potential chronic health effects

Short term exposure

- Potential immediate effects** : Not available.

Long term exposure

- Potential delayed effects** : Not available.
- General** : May cause damage to organs through prolonged or repeated exposure. Suspected of damaging fertility. Suspected of damaging the unborn child.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : May damage the unborn child.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : May damage fertility.

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	Test
Monoethanolamine	LD50 Oral	Rat	1515 mg/kg	-	-
Boric acid	LD50 Oral	Mouse	3450 mg/kg	-	-
	LD50 Oral	Rat	2660 mg/kg	-	-
Monoethanolamine	LD50 Dermal	Rabbit	1025 mg/kg	-	-
Boric acid	LD50 Dermal	Rabbit	>2000 mg/kg	-	-

Irritation/Corrosion

Conclusion/Summary

- Skin** : Monoethanolamine:corrosive
Boric acid:mild skin irritation , Rabbit
- Eyes** : Monoethanolamine:SERIOUS EYE DAMAGE/ EYE IRRITATION
Boric acid:mild eye irritation , Rabbit
- Respiratory** : Monoethanolamine:Irritant.

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Boric acid	skin	Guinea pig	Not sensitizing

Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Boric acid	Chronic NOAEL Oral	Rat - Male, Female	149 mg/kg	90 days; daily

Mutagenicity

Section 11. Toxicological information

Product/ingredient name	Test	Experiment	Result
Boric acid	Ames test	Experiment: In vitro Subject: Bacteria	Negative
	Micronucleus assay	Metabolic activation: +/- Experiment: In vivo Subject: Mammalian-Animal	Negative

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Boric acid	Negative - Oral -	Mouse - Male, Female	-	2 years

Conclusion/Summary : triethanolamine:* With nitrosating agents (eg, nitrogen oxide, nitrite) may be formed nitrosamines under specific conditions. Nitrosamines have been shown in animal studies to be carcinogenic.

Product/ingredient name	CAS #	IARC	NTP	OSHA
Monoethanolamine	141-43-5	Not classified.	Not classified.	Not classified.
Boric acid	10043-35-3	Not classified.	Not classified.	Not classified.

Reproductive toxicity

Product/ingredient name	Effects	Species	Dose	Exposure
Boric acid	-	Rat - Male, Female	Oral: <21 mg/kg NOAEL	-

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Boric acid	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Boric acid	Category 2	Not determined	brain, kidneys and liver

Acute toxicity estimates

Route	ATE value (Acute Toxicity Estimates)
Oral	8466.8 mg/kg
Dermal	7978.2 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Test	Result	Species	Exposure
Monoethanolamine	-	Acute EC50 65 mg/l	Daphnia - Daphnia magna	48 hours
	-	Acute IC50 2.5 mg/l	Algae - Selenastrum capricornutum	72 hours
	-	Acute LC50 349 mg/l	Fish - Cyprinus carpio	96 hours
	-	Acute NOEC 0.85 mg/l	Daphnia - Daphnia magna	21 days
	-	Chronic NOEC 1 mg/l	Algae - Selenastrum	72 hours

Section 12. Ecological information

Boric acid	-	Chronic NOEC 1.2 mg/l Acute EC50 133 mg/l Acute LC50 229 mg/l	capricornutum Fish - Oryzias latipes Daphnia Algae - Pseudokirchneriella subcapitata Fish Fish - Pimephales promelas	30 days 48 hours 72 hours 96 hours 96 hours
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Conclusion/Summary : Not available.

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Monoethanolamine	OECD 301A Ready Biodegradability - DOC Die-Away Test	>90 % - Readily - 28 days	-	-

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Monoethanolamine	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Monoethanolamine	-1.31	-	low

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	UN2491	ETHANOLAMINE SOLUTION	8	III		IB3, T4, TP1
IMDG Class	UN2491	ETHANOLAMINE SOLUTION	8	III		Emergency schedules (EmS) F-A, S-B
IATA-DGR Class	UN2491	ETHANOLAMINE SOLUTION	8	III		Passenger aircraft 852: 5 L Cargo aircraft 856: 60 L

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 : None

US EPA CERCLA Hazardous Substances (40 CFR 302) : 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 appropriate agency in your state.

<u>Ingredient name</u>	<u>CAS number</u>	<u>State Code</u>	<u>Concentration (%)</u>
triethanolamine	102-71-6	MA - S, NJ - HS, PA - RTK HS	14 - 20%
Monoethanolamine	141-43-5	MA - S, NJ - HS, PA - RTK HS	10 - 15%
Boric acid	10043-35-3	NJ - HS	5 - 10%
Water	7732-18-5		47 - 53%
6-[[[4-methylphenyl)sulphonyl]amino]hexanoic acid	78521-39-8		5 - 10%

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 : Not listed on TSCA Inventory, for R&D Use Only, Section 5 (h)(3) limitations apply.

Section 16. Other information

Hazardous Material Information System

Health	*	3
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

LANXESS' method of hazard communication is comprised of Product Labels and Safety Data Sheets. HMIS and NFPA ratings are provided by LANXESS 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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