

SAFETY DATA SHEET

Additive A36

Section 1. Identification of the substance/mixture and of the company/undertaking

GHS product identifier : Additive A36

Product code : 29147-02

Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Industrial use only. Additive
Uses advised against
Consumer use.

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E-Mail: contact@blaser.com

Supplier's details : Best Lube Co. Ltd.
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10900 Bangkok
Thailand
Tel: +66 2 939 10178
E-Mail: ch.nattavadee@bestlube.co.th

e-mail address of person responsible for this SDS : reach@blaser.com

Emergency telephone number (with hours of operation) : 001 800 120 666 751 (7 วัน/24 ชม)

Section 2. Hazards identification

Classification of the substance or mixture : AQUATIC HAZARD (ACUTE) - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 1

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : P273 - Avoid release to the environment.

Response : P391 - Collect spillage.

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Section 2. Hazards identification

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Other means of identification : Not available.

Ingredient name	%	CAS number
1,2-Ethanediamine, N1,N1,N2,N2-tetramethyl-, polymer with 1,1'-oxybis [2-chloroethane]	≥10 - ≤25	CAS: 31075-24-8
2-phosphonobutane-1,2,4-tricarboxylic acid	≤5	CAS: 37971-36-1
2-amino-2-methylpropanol	≤3	CAS: 124-68-5
2-aminobutan-1-ol	<1	CAS: 96-20-8

Additional information :

Neutralisation product: Equilibrium of Ionic Pairs according to REACH Annex V, 4.

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 or the environment and hence require reporting in this section.

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

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Continue to rinse for at least 10 minutes. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Avoid breathing vapor or mist. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. 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. 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. Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.

Section 4. First aid measures

Inhalation	: No specific data.
Skin contact	: No specific data.
Ingestion	: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	: 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.
Specific treatments	: No specific treatment.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
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. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

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

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

For non-emergency personnel	: 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. Put on appropriate personal protective equipment.
For emergency responders	: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

Section 6. Accidental release measures

- Small spill** : Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. 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.

- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store between the following temperatures: 0 to 40°C (32 to 104°F). Shelf life: (minimum) 24 months. 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. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Biological exposure indices

No exposure indices known.

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- 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.

Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. Wear suitable gloves tested to EN374. Nitrile gloves. thickness 0.3 mm (minimum) .
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved before handling this product.
- Respiratory protection** : A respirator is not needed under normal and intended conditions of product use. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators.

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Liquid.
- Color** : Yellow.
- Odor** : Characteristic.
- Odor threshold** : Not available.
- pH** : 6 to 7 [Conc. (% w/w): 5%]
- Melting point/freezing point** : Not available.
- Pour point** : <0°C (<32°F)
- Boiling point or initial boiling point and boiling range** : Not available.
- Flash point** : Closed cup: >170°C (>338°F)
Open cup: Not applicable.
- Burning rate** : Not applicable.
- Evaporation rate** : Not available.
- Flammability** : Not available.
- Lower and upper explosion limit/flammability limit** : Not available.
- Vapor pressure** : Not available.
- Relative vapor density** : Not available.
- Relative density** : Not available.
- Density** : 1.05 g/cm³
- Solubility in water** : Not available.
- Miscible with water** : Yes.
- Partition coefficient: n-octanol/water** : Not applicable.

Section 9. Physical and chemical properties and safety characteristics

Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): 2 mm ² /s (2 cSt)

Particle characteristics

Median particle size	: Not applicable.
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Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: Shelf life: (minimum) 24 months.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result
1,2-Ethanediamine, N1,N1,N2, N2-tetramethyl-, polymer with 1,1'-oxybis [2-chloroethane]	Rat - Oral - LD50 1951 mg/kg
-	Rabbit - Dermal - LD50 >2000 mg/kg
-	Rat - Inhalation - LC50 Vapor 5.8 mg/l [4 hours]
2-phosphonobutane-1,2,4-tricarboxylic acid	Rat - Oral - LD50 >2000 mg/kg
-	Rabbit - Dermal - LD50 >2000 mg/kg
2-amino-2-methylpropanol	Rabbit - Dermal - LD50 >2000 mg/kg

Conclusion/Summary [Product]	: Not available.
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Skin corrosion/irritation

Not available.

Conclusion/Summary [Product]	: Not available.
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Serious eye damage/eye irritation

Not available.

Section 11. Toxicological information

Conclusion/Summary [Product] : pH value - Used for classification

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Not available.

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary [Product] : Not available.

Carcinogenicity

Not available.

Conclusion/Summary [Product] : Not available.

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Section 11. Toxicological information

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary [Product] : 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.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Additive A36	>5000	>5000	N/A	73.3	N/A
1,2-Ethanediamine, N1,N1,N2,N2-tetramethyl-, polymer with 1,1'-oxybis[2-chloroethane]	1951	2500	N/A	11	N/A
2-phosphonobutane-1,2,4-tricarboxylic acid	2500	2500	N/A	N/A	N/A
2-aminobutan-1-ol	500	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result
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Section 12. Ecological information

1,2-Ethanediamine, N1,N1,N2, N2-tetramethyl-, polymer with 1,1'-oxybis [2-chloroethane]	Acute - EC50 Daphnia 0.37 mg/l [48 hours]
-	Acute - LC50 - Fresh water Fish 0.047 mg/l [96 hours]
-	Acute - NOEC - Fresh water Fish 0.037 mg/l [96 hours]
2-amino-2-methylpropanol	LC50 Daphnia 193 mg/l [48 hours]
2-aminobutan-1-ol	LC50 Fish - Goldfish 270 mg/l [4 days]
-	NOEC Algae 0.11 mg/l [4 days]

Conclusion/Summary [Product] : Not available.

Persistence and degradability

Not available.

Conclusion/Summary [Product] : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2-aminobutan-1-ol	-	93%; <28 day(s)	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
2-phosphonobutane- 1,2,4-tricarboxylic acid	-1.36	-	Low
2-amino-2-methylpropanol	-0.63	-	Low
2-aminobutan-1-ol	-0.45	-	Low

Mobility in soil

Soil/Water partition coefficient : 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. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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.
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Section 14. Transport information

	UN	IMDG	IATA
UN number	UN3082	UN3082	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,2-Ethanediamine, N1,N1,N2, N2-tetramethyl-, polymer with 1,1'-oxybis[2-chloroethane])	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,2-Ethanediamine, N1,N1,N2, N2-tetramethyl-, polymer with 1,1'-oxybis[2-chloroethane])	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,2-Ethanediamine, N1,N1, N2,N2-tetramethyl-, polymer with 1,1'-oxybis [2-chloroethane])
Transport hazard class(es)	9  	9  	9  
Packing group	III	III	III
Environmental hazards	Yes.	Yes.	Yes.

Additional information

- UN** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
- IMDG** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
- IATA** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

Harmful Chemicals List : Listed

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 15. Regulatory information

Inventory list

Thailand : All components are listed or exempted.

Section 16. Other information

History

Date of printing : 2026.02.26
Date of issue/Date of revision : 2026.02.26
Date of previous issue : 2026.02.26
Version : 1.07
Prepared by : Product Stewardship Blaser Swisslube AG
Key to abbreviations : ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 EC50 = Half maximal effective concentration
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LC50 = Median lethal concentration
 LD50 = Median lethal dose
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 SGG = Segregation Group
 UN = United Nations

Procedure used to derive the classification

Classification	Justification

AQUATIC HAZARD (ACUTE) - Category 1
 AQUATIC HAZARD (LONG-TERM) - Category 1

Calculation method
 Calculation method

 Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.