SAFETY DATA SHEET



Additive R01 **Section 1. Identification Product identifier** : Additive R01 : 29189-01 Article No. Relevant identified uses of the substance or mixture and uses advised against **Identified uses** Industrial use only. Metal working fluids Additive Uses advised against Consumer use. Manufactured/supplied : BLASER SWISSLUBE AG Winterseistrasse 22 CH-3415 Hasle-Rüegsau Switzerland Tel:+41 (0)34 460 01 01 Mail: contact@blaser.com Blaser Swisslube Inc. 31 Hatfield Lane Goshen, NY 10924 Tel:+1 845 294 32 00 Mail: mailboxusa@blaser.com e-mail address of person : reach@blaser.com responsible for this SDS **Emergency telephone** : +1 800 579 7421 (toll free) number (with hours of operation) Section 2. Hazard identification **Classification of the** : SKIN CORROSION - Category 1B **EYE IRRITATION - Category 2A** substance or mixture **GHS** label elements Hazard pictograms

Signal word	: Danger
Hazard statements	: ┣͡314 - Causes severe skin burns and eye damage.
Precautionary statements	
Prevention	 ▶ 280 - Wear protective gloves, protective clothing and eye or face protection. ▶ 264 - Wash thoroughly after handling.





Section 2. Hazard identification

Response	 P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. P363 - Wash contaminated clothing before reuse. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
Storage	: ₱405 - Store locked up.
Disposal	 F501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Section 3. Composition/information on ingredients

Substance/mixture

: Mixture

Ingredient name	% (w/w)	Identifiers
2-butoxyethanol	≥10 - <30	CAS: 111-76-2
2-aminoethanol	≥10 - <30	CAS: 141-43-5
neodecanoic acid	≥5 - <10	CAS: 26896-20-8
2-amino-2-methylpropanol	≥1 - <5	CAS: 124-68-5
citric acid	≥1 - <5	CAS: 5949-29-1
2,2'-(methylimino)diethanol	≥1 - <5	CAS: 105-59-9
benzotriazole	≥1 - <5	CAS: 95-14-7
Poly(oxy-1,2-ethanediyl), α-(carboxymethyl)-ω-(octyloxy)-	≥1 - <5	CAS: 53563-70-5

Additional information :

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

Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

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

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

Section 4. First-aid measures

Description of necessary fi	rst aid measures
Eye contact	: Set medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
Inhalation	: Kvoid breathing vapor or mist. Get medical attention immediately. Call a poison center or physician. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. 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
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Section 4. First-aid measures

	kept under medical surveillance for 48 hours.
Skin contact	: Set medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	: Set medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. 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.

Most important symptoms/effects, acute and delayed

most important symptoms/criccis, dedice and delayed				
Potential acute health effects	<u>s</u>			
Eye contact	: Causes serious eye irritation.			
Inhalation	: No known significant effects or critical hazards.			
Skin contact	: 🗭 auses severe burns.			
Ingestion	: No known significant effects or critical hazards.			
Over-exposure signs/symptoms				
Eye contact	: Adverse symptoms may include the following: pain watering redness			
Inhalation	: No specific data.			
Skin contact	: Adverse symptoms may include the following: pain or irritation redness blistering may occur			
Ingestion	: K dverse symptoms may include the following: stomach pains			

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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. 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.
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 nitrogen 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			
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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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).	
Methods and materials for containment and cleaning up			
Small spill	:	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry 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	:	Vut on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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. Store locked up. 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

<u>Control</u>	parameters

Occupational exposure limits

None.

Biological exposure indices

No exposure indices known.

Appropriate engineering : controls	W 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.
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.
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: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
Skin protection	

Blaser.



Section 8. Exposure controls/personal 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.

<u>Appearance</u>	
Physical state	: Liquid.
Color	: Yellow to red.
Odor	: Amine-like.
Odor threshold	: Not available.
рН	8.9 to 9.9 [Conc. (% w/w): 5%]
Melting point/freezing point	: Not available.
Pour point	: <0°C (<32°F)
Boiling point or initial	: Not available.
boiling point and boiling	
range	
Flash point	: Open cup: Not applicable.
Flammability	: Not available.
Lower and upper explosion	: Not available.
limit/flammability limit	
Vapor pressure	: Not available.
Relative vapor density	: Not available.
Relative density	: Not available.
Density	: <mark>≸.</mark> 029 g/cm³ [20°C (68°F)]
Solubility in water	: Not available.
Dispersibility	÷
Modia	Pocult

Media	Result								
cold water hot water			Dispersible Dispersible						
Partition coefficient: n- octanol/water	:	: Not applicable.							
Auto-ignition temperature	:	Not available.							
Decomposition temperature	:	Not available.							
Viscosity		Kinematic (ro	/namic (room temperature): Not available. nematic (room temperature): Not available. nematic (40°C (104°F)): 11 mm²/s (11 cSt)						
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Section 9. Physical and chemical properties and safety characteristics

Particle characteristics

Median particle size

: Not applicable.

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	Species	Dose	Exposure
2-butoxyethanol	LD50 Dermal	Rabbit	400 mg/kg	-
	LD50 Oral	Rat	1480 mg/kg	-
2-aminoethanol	LD50 Dermal	Rabbit	2504 mg/kg	-
	LD50 Oral	Rat	1720 mg/kg	-
neodecanoic acid	LD50 Dermal	Rat	3640 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
2-amino-2-methylpropanol	LD50 Dermal	Rabbit	>2000 mg/kg	-
citric acid	LD50 Dermal	Rabbit	>2000 mg/kg	-
2,2'-(methylimino)diethanol	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	4780 mg/kg	-
benzotriazole	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	500 mg/kg	-
Poly(oxy-1,2-ethanediyl), α- (carboxymethyl)-ω-(octyloxy)	LD50 Oral	Rat	>2000 mg/kg	-
-				

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-butoxyethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100	-
				mg	
	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
2-aminoethanol	Eyes - Severe irritant	Rabbit	-	250 ug	-
	Skin - Moderate irritant	Rabbit	-	505 mg	-
citric acid	Eyes - Mild irritant	Rabbit	-	0.5 minutes	-
				5 mg	

Conclusion/Summary

Skin

Eyes

- : pH value Used for classification
- : pH value Used for classification

Respiratory or skin sensitization



Section 11. Toxicological information

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	IARC	NTP	ACGIH
2-butoxyethanol	3	-	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
₽-aminoethanol citric acid	Category 3 Category 3	-	Respiratory tract irritation Respiratory tract
			irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely : Not available. routes of exposure

Potential	acute	health	effects

Eye contact	: Causes serious eye irritation.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: 🗭 auses severe burns.
Ingestion	: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	 <i>K</i>dverse symptoms may include the following: pain watering redness
Inhalation	: No specific data.
Skin contact	 Adverse symptoms may include the following: pain or irritation redness blistering may occur
Ingestion	: Adverse symptoms may include the following: stomach pains

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

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Section 11. Toxicological information

Potential immediate effects	: Not available.
Potential delayed effects	: Not available.
<u>Long term exposure</u>	
Potential immediate effects	: Not available.
Potential delayed effects	: Not available.
Potential chronic health effe	<u>cts</u>
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 R01	>2000	>2000	N/A	30.3	N/A
2-butoxyethanol	1480	1100	N/A	11	N/A
2-aminoethanol	1720	1100	N/A	11	N/A
neodecanoic acid	500	3640	N/A	N/A	N/A
2-amino-2-methylpropanol	N/A	2500	N/A	N/A	N/A
citric acid	N/A	2500	N/A	N/A	N/A
2,2'-(methylimino)diethanol	4780	2500	N/A	N/A	N/A
benzotriazole	500	2500	N/A	N/A	N/A
Poly(oxy-1,2-ethanediyl), α-(carboxymethyl)-ω- (octyloxy)-	2500	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
2-butoxyethanol	Acute EC50 >1000 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
-	Acute LC50 800000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 1250000 µg/l Marine water	Fish - Menidia beryllina	96 hours
2-aminoethanol	Acute LC50 329160 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Chronic NOEC 0.85 mg/l	Daphnia	21 days
	Chronic NOEC 1.2 mg/l	Fish	30 days
neodecanoic acid	Acute EC50 >100 mg/l	Daphnia	48 hours
	Acute LC50 >100 mg/l	Fish	96 hours
2-amino-2-methylpropanol	LC50 193 mg/l	Daphnia	48 hours
benzotriazole	LC50 180 mg/l	Fish	96 hours
	Acute EC50 15.8 mg/l	Daphnia - <i>Daphnia galeata</i>	48 hours
	Chronic NOEC 1 mg/l	Daphnia - Daphnia galeata	21 days
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Section 12. Ecological information

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
benzotriazole	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
2-butoxyethanol	0.81	-	Low
2-aminoethanol	-1.31	-	Low
neodecanoic acid	2.1	<225	Low
2-amino-2-methylpropanol	-0.63	-	Low
citric acid	-1.72	-	Low
2,2'-(methylimino)diethanol	-1.08	-	Low
benzotriazole	1.44	-	Low

Mobility in soil

Soil/water partition coefficient (Koc)

: 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.

Section 14. Transport information

	TDG Classification	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.





Section 14. Transport information

Special precautions for user	1	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 : Not available.

to IMO instruments

Section 15. Regulatory information

Canadian lists

Canadian NPRI

: The following components are listed: 2-butoxyethanol

CEPA Toxic substances : The following components are listed: 2-butoxyethanol

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

List name	Ingredient name	Status
Schedule III	Triethanolamine Methyldiethanolamine	Listed Listed

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Canada	: All components are listed or exempted.
United Ctates	· All company on the are pative an evenented

United States

: All components are active or exempted.

Section 16. Other information

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Prepared by	: Product Stewardship Blaser Swisslube AG
Key to abbreviations	 ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals HPR = Hazardous Products Regulations IATA = International Air Transport Association IBC = International Air Transport Association IBC = International Maritime Dangerous Goods 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 th	a classification

Procedure used to derive the classification

Date of	issue/Date	of revision



Section 16. Other information

Classification	Justification
KIN CORROSION - Category 1B	Calculation method
EYE IRRITATION - Category 2A	Expert judgment

References

: Not available.

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 abovenamed 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.