

SAFETY DATA SHEET



Additive D31

Safety Data Sheet according to GB/T 16483-2008 and GB/T 17519-2013

Section 1. Chemical product and company identification

GHS product identifier : Additive D31

Article No. : 03150-01

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.

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Section 2. Hazards identification

Classification of the substance or mixture according to GB 13690-2009 and GB 30000-2013

Emergency overview

Liquid.

Colorless.

Almond-like.

H303 - May be harmful if swallowed.

H317 - May cause an allergic skin reaction.

H319 - Causes serious eye irritation.

H412 - Harmful to aquatic life with long lasting effects.

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. If skin irritation or rash occurs: Get medical advice or attention. If eye irritation persists: Get medical advice or attention.

See Section 12 for environmental precautions.

Section 2. Hazards identification

Classification of the substance or mixture : ACUTE TOXICITY (oral) - Category 5
 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
 SKIN SENSITIZATION - Category 1
 AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H303 - May be harmful if swallowed.
 H317 - May cause an allergic skin reaction.
 H319 - Causes serious eye irritation.
 H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention : P280 - Wear protective gloves. Wear eye or face protection.
 P273 - Avoid release to the environment.
 P261 - Avoid breathing vapor.
 P264 - Wash thoroughly after handling.
 P272 - Contaminated work clothing should not be allowed out of the workplace.

Response : P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
 P302 + P352 - IF ON SKIN: Wash with plenty of water.
 P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
 P362 + P364 - Take off contaminated clothing and wash it 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 : Not applicable.

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

Physical and chemical hazards : No known significant effects or critical hazards.

Health hazards : May be harmful if swallowed. May cause an allergic skin reaction. Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
 pain or irritation
 watering
 redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
 irritation
 redness

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.

Section 2. Hazards identification

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Environmental hazards : Harmful to aquatic life with long lasting effects.

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

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	Identifiers
Resin acids and Rosin acids, hydrogenated, Me esters	≥30 - ≤50	CAS: 8050-15-5
benzyl benzoate	≥10 - ≤15	CAS: 120-51-4
vanillin	≥10 - ≤25	CAS: 121-33-5
coumarin	≤5	CAS: 91-64-5
anisaldehyde	≤5	CAS: 123-11-5
linalool	≤5	CAS: 78-70-6
α-hexylcinnamaldehyde	≤5	CAS: 101-86-0
linalyl acetate	≤5	CAS: 115-95-7
1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran	≤5	CAS: 1222-05-5
geranyl acetate	≤5	CAS: 105-87-3

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.
- 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. Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Skin contact** : Wash with plenty of 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. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

- Ingestion** : 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. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or 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

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : May be harmful if swallowed.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. 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. This material is harmful 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

Section 5. Fire-fighting measures

- 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. Avoid breathing 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). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

- 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). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. 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: 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. Contaminated work clothing should not be allowed out of the workplace. 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.

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** : Colorless.
- Odor** : Almond-like.
- Odor threshold** : Not available.
- pH** : Not applicable.

Section 9. Physical and chemical properties and safety characteristics

Melting point/freezing point	: Not available.
Boiling point or initial boiling point and boiling range	: Not available.
Flash point	: Open cup: >100°C (>212°F)
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	: 1.1 g/cm ³ [20°C (68°F)]
Solubility in water	: Not available.
Miscible with water	: No.
Partition coefficient: n-octanol/water	: Not applicable.
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)): 38 mm ² /s (38 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: 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
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Section 11. Toxicological information

benzyl benzoate

Rabbit - Dermal - LD50

4 g/kg

vanillin

Rat - Oral - LD50

1580 mg/kg

Toxic effects: Behavioral - Coma

Rabbit - Dermal - LD50

>5010 mg/kg

Toxic effects: Behavioral - Somnolence (general depressed activity) Behavioral - Food intake (animal) Gastrointestinal - Peritonitis

coumarin

Rat - Oral - LD50

293 mg/kg

anisaldehyde

Rabbit - Dermal - LD50

>5000 mg/kg

Rat - Oral - LD50

1510 mg/kg

Toxic effects: Behavioral - Somnolence (general depressed activity)

linalool

Rat - Dermal - LD50

5610 mg/kg

Rat - Oral - LD50

2790 mg/kg

linalyl acetate

Rat - Oral - LD50

13934 mg/kg

Toxic effects: Behavioral - General anesthetic Behavioral - Somnolence (general depressed activity) Behavioral - Ataxia

Rabbit - Dermal - LD50

>5000 mg/kg

1,3,4,6,7,8-hexahydro-
4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran
geranyl acetate

Rat - Dermal - LD50

>5 g/kg

Rat - Oral - LD50

6330 mg/kg

Toxic effects: Behavioral - Somnolence (general depressed activity) Behavioral - Coma

Conclusion/Summary [Product]

: Not available.

Skin corrosion/irritation

Not available.

Conclusion/Summary [Product]

: Not available.

Serious eye damage/eye irritation

Not available.

Conclusion/Summary [Product]

: Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product]

: Not available.

Respiratory or skin sensitization

Not available.

Skin

Section 11. Toxicological information

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 | : Causes serious eye irritation. |
| Inhalation | : No known significant effects or critical hazards. |
| Skin contact | : May cause an allergic skin reaction. |
| Ingestion | : May be harmful if swallowed. |

Symptoms related to the physical, chemical and toxicological characteristics

- | | |
|---------------------|--|
| Eye contact | : Adverse symptoms may include the following:
pain or irritation
watering
redness |
| Inhalation | : No specific data. |
| Skin contact | : Adverse symptoms may include the following:
irritation
redness |
| Ingestion | : No specific data. |

Section 11. Toxicological information

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 : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

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 D31	2501.3	N/A	N/A	N/A	N/A
benzyl benzoate	500	N/A	N/A	N/A	N/A
coumarin	500	N/A	N/A	N/A	N/A
linalool	N/A	5610	N/A	N/A	N/A
linalyl acetate	13934	N/A	N/A	N/A	N/A
geranyl acetate	6330	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Persistence/degradability

Not available.

Conclusion/Summary [Product] : Not available.

Section 12. Ecological information

Bioaccumulation/Accumulation

Product/ingredient name	LogP _{ow}	BCF	Potential
benzyl benzoate	3.97	-	Low
vanillin	1.21	-	Low
coumarin	1.39	-	Low
anisaldehyde	1.76	-	Low
linalool	2.84	-	Low
linalyl acetate	3.9	-	Low
1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran	5.3	-	High
geranyl acetate	4.04	-	High

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.

Section 14. Transport information

	China	UN	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.

Additional information

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.

Extinguishing media

Section 14. Transport information

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Incompatible materials : No specific data.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

List of Goods banned for Importing

None of the components are listed.

Drug Precursors Requiring an Import/Export License

None of the components are listed.

Inventory of Hazardous Chemicals

None of the components are listed.

List of Explosive Precursors

None of the components are listed.

List of Toxic Chemicals Severely Restricted for Importing & Exporting by China

None of the components are listed.

Catalogue and classification of drug precursor chemicals

None of the components are listed.

Inventory of Highly Toxic Articles

None of the components are listed.

Catalogue of Hazardous Chemicals of Priority Management

None of the components are listed.

Catalogue of Occupational Disease Hazard Factors - Dust

None of the components are listed.

Catalogue of Occupational Disease Hazard Factors - Chemical Factors

None of the components are 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

China : All components are listed or exempted.

Section 16. Other information

History

Date of printing : 2026年03月27日

Date of issue/Date of revision : 2026年03月27日

Date of previous issue : 2026年03月13日

Version : 1.06

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
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = 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 the classification

Classification	Justification
ACUTE TOXICITY (oral) - Category 5	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 3	Expert judgment

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.