

SAFETY DATA SHEET

1. Identification

Product identifier: DEGADUR® 151

Chemical name: Solution of an acrylic polymer in methacrylic acid esters / acrylic acid esters

Other means of identification

Recommended use: binder for floor-coating

Recommended restrictions: None known.

Manufacturer/Importer/Distributor Information

Company Name : Röhm GmbH
Product Stewardship
Kirschenallee
64293 Darmstadt

Telephone : +49 6151 18 4076

E-mail : sds-info@roehm.com

Manufacturer

Emergency telephone number:

24-Hour Health : +49 6241 402 5280 (24h)

Emergency : +49 6131 19 240 (24h)

2. Hazard(s) identification

According to Hazardous Product Regulations

Physical Hazards

Flammable liquids Category 2

Health Hazards

Acute toxicity (Oral) Category 5

Skin irritation Category 2

Skin sensitizer Category 1

Specific Target Organ Toxicity -
Single Exposure Category 3¹

Target Organs

1. Respiratory system

Environmental Hazards

Acute hazards to the aquatic
environment Category 2

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Highly flammable liquid and vapor.
May be harmful if swallowed.
Causes skin irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
Toxic to aquatic life.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting/...] equipment. Use non-sparking tools. Take action to prevent static discharges. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/eye protection/face protection.

Response: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/ container to an approved waste disposal plant.

Other hazards: Take precautionary measures against static discharges. Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

3. Composition/information on ingredients

Chemical name:

Solution of an acrylic polymer in methacrylic acid esters / acrylic acid esters

Mixtures

Solution of an acrylic polymer in methacrylic acid esters / acrylic acid esters

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
Methyl methacrylate		80-62-6	>=30,0 - <50,0%
2-ethylhexyl acrylate		103-11-7	>=20,0 - <30,0%
1,4-butanediol dimethacrylate		2082-81-7	>=1,0 - <10,0%
N,N-bis-(2-hydroxypropyl)-p-toluidine		38668-48-3	>=1,0 - <10,0%
(2-hydroxy-4-methoxyphenyl)phenyl-methanone		131-57-7	>=0,1 - <1,0%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Description of necessary first-aid measures

General information:

Take off all contaminated clothing immediately. Medical treatment is necessary if symptoms occur which are obviously caused by skin or eye contact with the product or by inhalation of its vapours.

Inhalation:

Move subject to fresh air and keep him calm. If symptoms persist, call a physician.

Skin Contact:

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Wash contaminated clothing before reuse. Seek medical advice if symptoms occur.

Eye contact:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms persist, call a physician.

Ingestion:

Do not induce vomiting, call in a physician. Never give anything by mouth to an unconscious person.

Personal Protection for First-aid Responders:

Wear self-contained breathing apparatus.

Most important symptoms/effects, acute and delayed

Symptoms:

Excessive or prolonged exposure can cause the following: Headache, confusion Irritation Product has dermal defatting effect

Hazards:

No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Symptomatic treatment.

5. Fire-fighting measures

General Fire Hazards: Vapours are heavier than air and can form an explosive mixture with air. Flammable liquid. Vapors can travel to a source of ignition and flash back. Explosive mixtures may occur at temperatures at or above the flashpoint. Remove sources of ignition. Also keep emptied containers away from sources of heat and ignition. Keep out unprotected persons. In case of fire, remove the endangered barrels and bring to a safe place, if this can be done safely. Containers exposed to heat (fire) may build up pressure. Cool by splashing with water. Prevent fire extinguishing water from contaminating surface water or the ground water system. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: foam Dry chemical. Carbon dioxide Water spray.

Unsuitable extinguishing media: High volume water jet

Specific hazards arising from the chemical: May be released in case of fire: carbon monoxide, carbon dioxide, organic products of decomposition. Closed container may rupture if strongly heated. Vapours may form explosive mixtures with air. Combustible air-vapour mixtures are heavier than the air and spread along the floor. Ignition from a considerable distance is possible.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Keep away from sources of ignition - No smoking. Vapors are heavier than air. Flammable liquid. Vapors can travel to a source of ignition and flash back. Explosive mixtures may occur at temperatures at or above the flashpoint. Take action to prevent static discharges. Use explosion-proof equipment. In the event of fire, cool the endangered containers with water. Fire fighting must be carried out from a safe distance.

Special protective equipment for fire-fighters: Wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Assure sufficient ventilation. Use personal protective clothing. Use breathing apparatus if exposed to vapours/dust/mist/aerosol. Keep away from open flames, hot surfaces and sources of ignition. Vapours can form explosive mixtures with air. Keep out unprotected persons. Avoid spark generation.

Methods and material for containment and cleaning up:

Larger quantities: Remove mechanically (by pumping). Use explosion-proof equipment! Smaller quantities and/or residues: Contain with absorbent material (e.g. sand, diatomaceous earth, acid absorbent, universal absorbent or sawdust). Dispose of in accordance with regulations.

Environmental Precautions:

Prevent product from getting into drains/surface water/groundwater.

7. Handling and storage

Precautions for safe handling:

Keep away from sources of ignition - No smoking. Vapors are heavier than air. Flammable liquid. Vapors can travel to a source of ignition and flash back. Explosive mixtures may occur at temperatures at or above the flashpoint.

Take action to prevent static discharges. In the event of fire, cool the endangered containers with water. Fire fighting must be carried out from a safe distance. Do not breathe vapors. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Remove contaminated clothing and wash it before reuse. Avoid inhalation, ingestion and contact with skin and eyes. Provide sufficient ventilation and exhaust at the workplace. Provide good room ventilation even at ground level (vapours are heavier than air). Keep container tightly closed. Open drum carefully as content may be under pressure. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Wash thoroughly after handling. Keep locked up.

Conditions for safe storage, including any incompatibilities:

Keep away from open flames, hot surfaces and sources of ignition. Keep away from heat. Protect from the action of light. Protect from direct sunlight. Keep containers tightly closed in a cool, well-ventilated place. Fill the container by approximately 90 % only as oxygen (air) is required for stabilisation. With large storage containers make sure the oxygen (air) supply is sufficient to ensure stability. Keep locked up. Keep only in the original container at temperature not exceeding 30 °C

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Biological Limit Values

No biological exposure limits noted for the ingredient(s).

Appropriate Engineering Controls

For monitoring procedures refer for instance to "Empfohlene Analysenverfahren für Arbeitsplatzmessungen", Schriftenreihe der Bundesanstalt für Arbeitsschutz and "NIOSH Manual of Analytical Methods", National Institute for Occupational Safety and Health

Individual protection measures, such as personal protective equipment

General information: No data available.

Eye/face protection: tightly fitting goggles

Skin Protection

Hand Protection: Material: butyl rubber gloves
Break-through time: 60 min
Guideline: EN 374
Additional Information: Gloves should be replaced regularly, especially after extended contact with the product., For each work-place a suitable glove type has to be selected.

Other: On handling of larger quantities: face mask, chemical-resistant boots and apron

Respiratory Protection: Breathing apparatus in case of high concentrations

Hygiene measures: Take off all contaminated clothing immediately. Store work clothing separately. Follow the usual good standards of occupational hygiene. Clean skin thoroughly after work; apply skin cream.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	bluish, slightly turbid
Odor:	ester-like
Odor Threshold:	No data available.
pH:	Not applicable
Freezing point:	< 15 °C
Boiling Point:	approx. 100 °C (1.013 hPa)
Flash Point:	10 °C (DIN 51 755) (methyl methacrylate)
Evaporation Rate:	No data available.
Flammability (solid, gas):	No data available.
Flammability Limit - Upper (%):	12,5 %(V) (methyl methacrylate)
Flammability Limit - Lower (%):	2,1 %(V) at 10,5°C (methyl methacrylate)
Vapor pressure:	approx. 40 hPa (20 °C)
Vapor density (air=1):	> 1 20 °C
Density:	0,97 g/cm ³ (20 °C)
Relative density:	No data available.
Solubility(ies)	
Solubility in Water:	approx. 20 g/l (20 °C)
Solubility (other):	soluble in ethyl acetate
Partition coefficient (n-octanol/water):	No data available.
Autoignition Temperature:	The substance or mixture is not classified as self heating.
Decomposition Temperature:	No decomposition if used as directed.
Kinematic viscosity:	approx. 77 - 150 mm ² /s
Dynamic viscosity:	75 - 145 mPa.s (23 °C)
Explosive properties:	No data available.
Oxidizing properties:	No data available.

Other information

Dust Explosion Limit, Upper:	(methyl methacrylate)
Dust Explosion Limit, Lower:	at 10,5°C (methyl methacrylate)
Minimum ignition temperature:	430 °C (DIN 51794) (methyl methacrylate)
Self Ignition Temperature:	The substance or mixture is not classified as self heating.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	No decomposition if used as directed. The product is normally stabilized when delivered. However, it might polymerize producing heat and ignite spontaneously if maximum storage time and/or maximum storage temperature have been substantially exceeded.
Possibility of hazardous reactions:	Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.
Conditions to avoid:	Heat and ignition sources, aging, contamination, oxygen free atmosphere.
Incompatible Materials:	Peroxides, amines, sulfur compounds, heavy metal ions, alkalis, reducing agents and oxidizing agents.
Hazardous Decomposition Products:	None when used as directed.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	Relevant route of exposure. Information on effects are given below.
Skin Contact:	Relevant route of exposure. Information on effects are given below.
Eye contact:	Relevant route of exposure. Information on effects are given below.
Ingestion:	If handled correctly, not a relevant route of exposure. Information on effects are given below.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	Headache. Dizziness.
Skin Contact:	May cause skin irritation. May cause allergic skin reaction.
Eye contact:	Causes serious eye irritation.
Ingestion:	If handled correctly, not a relevant route of exposure. Information on effects are given below.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: Acute toxicity estimate: 2.224 mg/kg

Dermal

Product: ATEmix: > 5.000 mg/kg

Inhalation

Product: ATEmix: > 50 mg/l
Vapour

Repeated dose toxicity

Product: No data available.

Specified substance(s):

Methyl methacrylate NOAEL (Rat, Inhalation(Vapour)): 25 ppm

NOAEL (Rat, Oral): 2000 ppm

1,4-butanediol NOAEL (Rat, Oral): 300 mg/kg

dimethacrylate

(2-hydroxy-4-

methoxyphenyl)phenyl-

methanone

The available data do not suffice for classification.

Skin Corrosion/Irritation

Product Irritating.
Properties of components in summary.

Serious Eye Damage/Eye Irritation

Product: Contact with the eyes may cause irritation. Properties of components in summary.

Respiratory or Skin Sensitization

Product: No data available.

Specified substance(s):

Methyl methacrylate Local Lymph Node Assay, OECD TG 429 (Mouse): May cause sensitization by skin contact.

2-ethylhexyl acrylate Skin sensitizer

1,4-butanediol dimethacrylate Local Lymph Node Assay (LLNA), OECD Test Guideline 429 (Mouse): Sensitising Own test result.

N,N-bis-(2-hydroxypropyl)-p-toluidine Not a skin sensitizer.

(2-hydroxy-4-methoxyphenyl)phenyl-methanone Maximization Test (GPMT) (Guinea Pig): Not a skin sensitizer.

Carcinogenicity

Product: Contains no ingredient listed as a carcinogen (>0.1%).

Germ Cell Mutagenicity

In vitro

Product: No data available.

Specified substance(s):

1,4-butanediol dimethacrylate gene mutation (OECD TG 471): negative

N,N-bis-(2-hydroxypropyl)-p-toluidine (OECD TG 471)negative

(2-hydroxy-4-methoxyphenyl)phenyl-methanone Not classified

In vivo

Product: No data available.

Specified substance(s):

1,4-butanediol dimethacrylate Chromosomal aberration (OECD TG 474) Oral (Mouse): negative

N,N-bis-(2-hydroxypropyl)-p-toluidine Ames test: negative

(2-hydroxy-4-methoxyphenyl)phenyl-methanone Not classified

Reproductive toxicity

Product: Contains no ingredient listed as toxic to reproduction (>0.1%).

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specified substance(s):

Methyl methacrylate Category 3 with respiratory tract irritation.

2-ethylhexyl acrylate Category 3 with respiratory tract irritation.

1,4-butanediol dimethacrylate Not classified no evidence for hazardous properties

N,N-bis-(2-hydroxypropyl)-p-toluidine Not classified

(2-hydroxy-4-methoxyphenyl)phenylmethanone Not classified based on available information.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.
Specified substance(s):
 Methyl methacrylate Not classified
 2-ethylhexyl acrylate Not classified
 1,4-butanediol dimethacrylate Not classified no evidence for hazardous properties
 N,N-bis-(2-hydroxypropyl)-p-toluidine Not classified
 (2-hydroxy-4-methoxyphenyl)phenylmethanone Not classified

Target Organs

Specific Target Organ Toxicity - Single Exposure: Respiratory system

Aspiration Hazard

Product: No aspiration toxicity classification

Other effects: There are no toxicological data available for the product as such. Avoid contact with the skin and eyes and inhalation of the product vapours.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Methyl methacrylate LC 50 (Oncorhynchus mykiss (rainbow trout), 96 h): > 79 mg/l
 NOEC (Danio rerio (zebra fish), 32 d): 9,4 mg/l literature
 2-ethylhexyl acrylate LC 50 (Salmo gairdneri, 96 h): 4,6 mg/l
 LC 50 (Oncorhynchus mykiss (rainbow trout), 96 h): 1,81 mg/l
 1,4-butanediol dimethacrylate LC 50 (Leuciscus idus melanotus, 48 h): 32,5 mg/l The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy). Own test result.
 N,N-bis-(2-hydroxypropyl)-p-toluidine LC 50 (Danio rerio (zebra fish), 96 h): 17 mg/l
 (2-hydroxy-4-methoxyphenyl)phenylmethanone LC 50 (Leuciscus idus (Golden orfe), 96 h): 100 - 220 mg/l The reported toxic effects relate to the nominal concentration.

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Methyl methacrylate EC 50 (Daphnia magna (Water flea), 48 h): 69 mg/l
NOEC (Daphnia magna (Water flea), 21 d): 37 mg/l

2-ethylhexyl acrylate EC 50 (Daphnia magna, 48 h): 8,74 mg/l
EC 50 (Daphnia magna (Water flea), 48 h): 17,45 mg/l

N,N-bis-(2-hydroxypropyl)-p-toluidine EC 50 (Daphnia magna (Water flea), 48 h): 28,8 mg/l

(2-hydroxy-4-methoxyphenyl)phenylmethanone EC50 (Daphnia magna (Water flea), 24 h): 12,9 mg/l The product has low solubility in the test medium. An aqueous dispersion was tested. The reported toxic effects relate to the nominal concentration.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

2-ethylhexyl acrylate NOEC (Salmo salar (Atlantic salmon), 21 d): 0,78 mg/l

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

2-ethylhexyl acrylate NOEC (Daphnia magna (Water flea), 21 d): 0,19 mg/l
EC 50 (Daphnia magna (Water flea), 21 d): 0,5 mg/l

1,4-butanediol dimethacrylate EC 10 (Daphnia magna, 21 d): 7,51 mg/l

Toxicity to Aquatic Plants

Product: No data available.

Specified substance(s):

Methyl methacrylate EC 50 (Selenastrum capricornutum (green algae), 72 h): > 100 mg/l
NOEC (Selenastrum capricornutum (green algae), 72 h): > 100 mg/l

2-ethylhexyl acrylate EC 50 (Desmodesmus subspicatus (green algae), 72 h): 14,6 mg/l
EC 50 (Desmodesmus subspicatus (green algae), 72 h): 1,71 mg/l
EC 50 (Pseudokirchneriella subcapitata (green algae), 72 h): 3,55 mg/l
EC 50 (Desmodesmus subspicatus, 72 h): 5,28 mg/l

1,4-butanediol dimethacrylate EC 50 (Desmodesmus subspicatus (green algae), 72 h): 9,79 mg/l Own study

N,N-bis-(2-hydroxypropyl)-p-toluidine EC 50 (Desmodesmus subspicatus (green algae), 72 h): 245 mg/l

(2-hydroxy-4-methoxyphenyl)phenyl-methanone

EC 50 (Desmodesmus subspicatus (green algae), 72 h): 1,4 mg/l The product has low solubility in the test medium. An aqueous dispersion was tested. The reported toxic effects relate to the nominal concentration.
EC 50 (Pseudokirchneriella subcapitata (green algae), 72 h): 0,41 mg/l
NOEC (Pseudokirchneriella subcapitata (green algae), 72 h): 0,08 mg/l

Persistence and Degradability

Biodegradation

Product: The product is biodegradable. (monomer constituent) (analogy)

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: no specific test data available no evidence for hazardous properties (structure-activity-relationships) (analogy)

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: No data available.

Mobility in soil: no specific test data available

Other adverse effects: Prevent substance from entering soil, natural bodies of water and sewer systems.

13. Disposal considerations

Disposal methods: Waste is hazardous. It must be disposed of in accordance with the regulations after consultation of the competent local authorities and the disposal company in a suitable and licensed facility.

Contaminated Packaging: Contaminated packaging should ideally be emptied; it can then be recycled after having been decontaminated. Packaging that cannot be cleaned should be disposed of professionally. Uncontaminated packaging may be taken for recycling.

14. Transport information

International Regulations

IATA-DGR

UN/ID No. : UN 1866
Proper shipping name : Resin solution STABILIZED
Class : 3
Packing group : II
Labels : 3
Packing instruction (cargo aircraft) : 364
Packing instruction : 353

(passenger aircraft)

IMDG-Code

UN number : UN 1866
Proper shipping name : RESIN SOLUTION STABILIZED

Class : 3
Packing group : II
Labels : 3
EmS Code : F-E, S-E
Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. Regulatory information

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

Inventory Status:

Registration, Evaluation and Authorisation of Chemicals (REACH):	preregistered, registered or exempted
US TSCA Inventory:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
Canada NDSL Inventory:	Not on Inventory.
Australia AICS:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Philippines PICCS:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	Included on Inventory.

16. Other information, including date of preparation or last revision

Issue Date:	20.09.2019
Version #:	1.2
Further Information:	The product is normally supplied in a stabilized form. If the permissible storage period and/or storage temperature is exceeded, the product may polymerize with heat evolution.
Revision Information:	Changes since the last version are highlighted in the margin. This version replaces all previous versions.
Disclaimer:	This information and all further technical advice is based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer. Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used.