

SAFETY DATA SHEET

1. Identification

Product identifier: DEGADUR® 165

Other means of identification

Recommended use: binder for floor-coating Roller application or brushing Hand-mixing with intimate contact and only PPE available Wide dispersive indoor use resulting in inclusion into or onto a matrix Wide dispersive outdoor use resulting in inclusion into or onto a matrix

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 4

Skin irritation Category 2

Skin sensitizer Category 1

Specific Target Organ Toxicity -
Single Exposure Category 3¹.

Specific Target Organ Toxicity -
Repeated Exposure (Oral) Category 2².

Target Organs

1. Respiratory system

2. Kidney

Environmental Hazards

Acute hazards to the aquatic environment

Category 3

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Highly flammable liquid and vapor.
Harmful if swallowed.
Causes skin irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure if swallowed.
Harmful 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. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. 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. Rinse mouth. 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. 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.

3. Composition/information on ingredients

Mixtures

Solution of an acrylic polymer in an acrylic acid ester

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
Methyl methacrylate		80-62-6	>=50,0 - <70,0%
1,4-butanediol dimethacrylate		2082-81-7	>=1,0 - <10,0%
dibutyl maleate		105-76-0	>=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	>=1,0 - <10,0%

* 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: IF INHALED: Remove person to fresh air and keep comfortable for breathing. If feeling unwell seek medical advice.

Skin Contact: IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs consult a physician.

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

Ingestion: IF SWALLOWED: Call a POISON CENTRE/doctor/... if you feel unwell. Rinse mouth. Do not induce vomiting. 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: Product has dermal defatting effect Excessive or prolonged exposure can cause the following: skin irritation possible
loss of coordination
Nausea/Headache.
Difficulty in breathing.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: If ingested, irrigate the stomach. If the product has been swallowed or vomited danger of penetration into the lung (danger of aspiration).

5. Fire-fighting measures

General Fire Hazards: Vapours are heavier than air and can form an explosive mixture with air. 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.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: foam Dry chemical. Carbon dioxide

Unsuitable extinguishing media: Water.

Specific hazards arising from the chemical: Products or compounds possibly released in case of fire: Carbon oxides organic products of decomposition

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Keep away from heat/sparks/open flames/hot surfaces. No smoking. Take action to prevent static discharges. Use only spark-proof tools. In the event of fire, cool the endangered containers with water. When heated above the flash point and/or during spraying (atomizing), ignitable mixtures may form in air. Use explosion-proof equipment.

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. Keep away sources of ignition. Use breathing apparatus if exposed to vapours/dust/mist/aerosol.

Methods and material for containment and cleaning up: Remove sources of ignition. Assure sufficient ventilation. 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 heat/sparks/open flames/hot surfaces. No smoking. Take action to prevent static discharges. Use only spark-proof tools. In the event of fire, cool the endangered containers with water. When heated above the flash point and/or during spraying (atomizing), ignitable mixtures may form in air. Use explosion-proof equipment. Avoid breathing dust/mist/vapors. Avoid contact with skin and eyes. Do not eat, drink or smoke during use. Keep container tightly closed. Provide good room ventilation even at ground level (vapours are heavier than air). When using do not eat, drink or smoke. Avoid inhalation, ingestion and contact with skin and eyes. Provide sufficient ventilation and exhaust at the workplace. 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. Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Control staff entry to working area. Training for staff on good practice. Recording of any 'near miss' situations. Regular cleaning of equipment and work area. Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour)

Conditions for safe storage, including any incompatibilities: Keep containers tightly closed in a cool, well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep away from heat. Protect from direct sunlight. 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 only in the original container at a temperature not exceeding 25 °C.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Methyl methacrylate	TWA	50 ppm	US. ACGIH Threshold Limit Values (03 2016)
	STEL	100 ppm	US. ACGIH Threshold Limit Values (03 2016)

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 if the limit values like TLV are exceeded, when vapours or aerosols occur Respirator with filter for organic vapour short term: filter appliance, filter A

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 (Paraffin Separation)
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):	Not applicable
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:	1,00 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:	No data available.
Decomposition Temperature:	No decomposition if used as directed.
Kinematic viscosity:	No data available.
Dynamic viscosity:	50 - 90 mPa.s (23 °C, DIN 53018)
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:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	No decomposition if used as directed.
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

General information: no specific test data available

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:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product:	Acute toxicity estimate: 1.316 mg/kg
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Dermal

Product: No data available.

Specified substance(s):

Methyl methacrylate LD 50 (Rabbit): > 5.000 mg/kg

1,4-butanediol dimethacrylate LD 50 (Rabbit): > 3.000 mg/kg

dibutyl maleate LD 50 (Rat): > 2.000 mg/kg

(2-hydroxy-4-methoxyphenyl)phenylmethanone LD 50 (Rabbit): > 16.000 mg/kg

Inhalation

Product: No data available.

Specified substance(s):

Methyl methacrylate LC 50 (Rat): 29,8 mg/l
Vapour

The substance or mixture has no acute inhalation toxicity
Dusts, mists and fumes

1,4-butanediol dimethacrylate No labelling required
Vapour No labelling required
Dusts, mists and fumes

dibutyl maleate No labelling required
Vapour No labelling required
Dusts, mists and fumes

N,N-bis-(2-hydroxypropyl)-p-toluidine The substance or mixture has no acute inhalation toxicity
Dusts, mists and fumes The substance or mixture has no acute inhalation toxicity
Vapour

(2-hydroxy-4-methoxyphenyl)phenylmethanone No labelling required

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: Contact with skin may cause irritations.

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

1,4-butanediol Rabbit: Not irritating

dimethacrylate

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.

1,4-butanediol , OECD Test Guideline 429 (Mouse)Skin sensitizer Own test result.

dimethacrylate Skin Sensitisation Category 1B (UN-GHS)

dibutyl maleate , OECD Test Guideline 406 (Guinea Pig)May cause sensitization by skin

contact.

N,N-bis-(2-

hydroxypropyl)-p-

toluidine

(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 Not classified

dibutyl maleate

Ames test (OECD TG 471): negative

In vitro mammalian cell gene mutation test (OECD TG 473): positive

Genetic mutation in mammal cells (OECD TG 476): negative

(OECD TG 471)negative

N,N-bis-(2-

hydroxypropyl)-p-toluidine

(2-hydroxy-4-

methoxyphenyl)phenyl-

methanone

In vivo

Product: No data available.

Specified substance(s):

1,4-butanediol dimethacrylate Not classified

dibutyl maleate

In vivo micronucleus test (Mouse): negative

Ames test: negative

N,N-bis-(2-

hydroxypropyl)-p-toluidine

(2-hydroxy-4-

methoxyphenyl)phenyl-

methanone

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.

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

dibutyl maleate

Not classified

N,N-bis-(2-

hydroxypropyl)-p-toluidine

Not classified based on available information.

(2-hydroxy-4-

methoxyphenyl)phenyl-

methanone

Specific Target Organ Toxicity - Repeated Exposure

Product: Liver, Kidney
Related to substance: dibutyl maleate

Target Organs

Specific Target Organ Toxicity - Single Exposure: Respiratory system

Specific Target Organ Toxicity - Repeated Exposure: Kidney

Aspiration Hazard

Product: Not applicable

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

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.

dibutyl maleate LC 50 (Oncorhynchus mykiss (rainbow trout), 96 h): 0,6 mg/l

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

dibutyl maleate EC 50 (Daphnia magna (Water flea), 48 h): 21 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.

Aquatic Invertebrates

Product: No data available.

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

1,4-butanediol dimethacrylate EC 50 (Desmodesmus subspicatus (green algae), 72 h): 9,79 mg/l Own study
EC10 (72 h): 4,35 mg/l

dibutyl maleate EC 50 (Desmodesmus subspicatus (green algae), 72 h): 6,2 mg/l

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

(2-hydroxy-4-methoxyphenyl)phenylmethanone 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)

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: no evidence for hazardous properties

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 packages must be emptied as good as possible. They may then be recycled after proper cleaning. Packages that cannot be cleaned must be disposed of in the same way as the substance. 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 (passenger aircraft) : 353

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:	On or in compliance with the inventory

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

Issue Date:	18.06.2019
Revision Date:	No data available.
Version #:	1.1
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.