according to Regulation (EC) No 1907/2006

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Durolan die spacer

Product code:

25002

25003

25004

25005

Further trade names

-blue, -red, -silver, -clear, -gold

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

Use of the substance/mixture

Die spacer

1.3. Details of the supplier of the safety data sheet

Company name: **DFS-DIAMON GmbH** Street: Ländenstrasse 1 Place: D-93339 Riedenburg Telephone: +49 (0) 9442 9189 0 Contact person: Bernd Hildebrandt

bernd.hildebrandt@dfs-diamon.de e-mail:

http://www.dfs-diamon.de Internet:

1.4. Emergency telephone +49 (0) 9442 9189 0 Mo-Fr 9 a.m. - 3 p.m. UTC+1

number:

SECTION 2: Identification of hazards

2.1. Classification of the substance or mixture

Indications of danger: F - Highly flammable, Xn - Harmful, Xi - Irritant

R phrases:

Highly flammable.

Irritating to eyes.

Harmful: may cause lung damage if swallowed.

Repeated exposure may cause skin dryness or cracking.

Vapours may cause drowsiness and dizziness.

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Hazard categories:

Flammable liquid: Flam. Liq. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness.

2.2. Label elements

Hazardous components which must be listed on the label

propan-2-ol; isopropyl alcohol; isopropanol acetone; propan-2-one; propanone

1-methoxy-2-propanol; monopropylene glycol methyl ether

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Signal word:

Danger

GHS02-GHS07

Pictograms:





Hazard statements

Highly flammable liquid and vapor.

Causes serious eye irritation.

May cause drowsiness or dizziness.

Safety recommendations

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Expose person to fresh air and ensure comfortable breathing.

Call a POISON CENTER/doctor if you feel unwell.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Store in a well-ventilated place. Keep container tightly closed.

Special labelling of certain mixtures

Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

| Chemical name | Quantity |
|---|---|
| Classification according to Directive 67/548/EEC | |
| Classification according to Regulation (EC) No. 1272/2008 [CLP] | |
| | |
| propan-2-ol; isopropyl alcohol; isopropanol | 40 - 50 % |
| F - Highly flammable, Xi - Irritant R11-36-67 | |
| Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 | |
| acetone; propan-2-one; propanone | 35 - 40 % |
| F - Highly flammable, Xi - Irritant R11-36-66-67 | |
| Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066 | |
| | |
| 1-methoxy-2-propanol; monopropylene glycol methyl ether | 4 - 10 % |
| R10-67 | |
| Flam. Liq. 3, STOT SE 3; H226 H336 | |
| | |
| | Classification according to Directive 67/548/EEC Classification according to Regulation (EC) No. 1272/2008 [CLP] propan-2-ol; isopropyl alcohol; isopropanol F - Highly flammable, Xi - Irritant R11-36-67 Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 acetone; propan-2-one; propanone F - Highly flammable, Xi - Irritant R11-36-66-67 Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066 1-methoxy-2-propanol; monopropylene glycol methyl ether R10-67 |

Full text of R-, H- and EUH-phrases: see section 16.

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SECTION 4: First aid measures

4.1. Description of first aid measures

After inhalation

Provide fresh air. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After contact with skin

Wash with plenty of water. Take off contaminated clothing and wash it before reuse.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for sufficient time, then consult an ophthalmologist immediately.

After ingestion

Mind the risk of aspiration if vomiting occurs. Rinse mouth immediately and drink plenty of water.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing devices

Suitable extinguishing

Water spray jet, carbon dioxide (CO2), foam, extinguishing powder.

5.2. Special hazards arising from the substance or mixture

Highly flammable, vapors can form explosive mixtures with air.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Use water spray jet to protect persons and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow water to enter drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition. Do not breathe gas/fumes/vapor/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Danger of explosion

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Advice on safe handling

If handled uncovered, equipment with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapor/spray.

Advice on protection against fire and explosion

Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharge. Vapors can form explosive mixtures with air.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on storage compatibility

Do not store together with: oxidizing agent, pyrophoric or self-heating substances.

7.3. Specific end use(s)

Die spacer

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

| CAS No | Substance | ppm | mg/m³ | fibres/ml | Category | Origin |
|----------|----------------------|------|-------|-----------|---------------|--------|
| 107-98-2 | 1-Methoxypropan-2-ol | 100 | 375 | | TWA (8 h) | WEL |
| | | 150 | 560 | | STEL (15 min) | WEL |
| 67-64-1 | Acetone | 500 | 1210 | | TWA (8 h) | WEL |
| | | 1500 | 3620 | | STEL (15 min) | WEL |
| 67-63-0 | Propan-2-ol | 400 | 999 | | TWA (8 h) | WEL |
| | | 500 | 1250 | | STEL (15 min) | WEL |

8.2. Exposure controls









Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapor/spray.

Remove contaminated, soaked clothing immediately. Draw up and observe skin protection program. Wash hands and face before breaks and after work and take a shower if necessary. Do not consume food or drinks while using the product.

Eye/face protection

Suitable eye protection: goggles.

Hand protection

When handling chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals should be chosen depending on the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above with the supplier of these gloves.

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Skin protection

Flame-retardant protective clothing. Wear anti-static footwear and clothing

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: liquid

Color: according to product specification

Odor: fruity

Test method

pH-Value: not determined

Changes in the physical state

Melting point: not determined Initial boiling point and boiling range: 56 $^{\circ}$ C Flash point: < 21 $^{\circ}$ C

Flammability

Solid: not applicable
Gas: not applicable
Lower explosion limits: 2 vol. %
Upper explosion limits: 14,3 vol. %
Ignition temperature: 460 °C

Auto-ignition temperature

Solid: not applicable
Gas: not applicable
Decomposition temperature: not determined

Oxidizing properties

Not oxidizing.

Vapor pressure: 246 hPa

(at 20 °C)

Vapor pressure: 814 hPa

(at 50 °C)

Density: 0,9 g/cm³ Water solubility: easily soluble

Solubility in other solvents

not determined

Partition coefficient: not determined Viscosity / dynamic: 0,44 mPa·s

(at 20 °C)

Vapour density: not determined Evaporation rate: not determined Solvent content: > 78,5 %

9.2. Other information

Solid content: not determined

according to Regulation (EC) No 1907/2006

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SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable, ignition hazard.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapors can form explosive mixtures with air.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met.

Acute toxicity

| CAS No | Chemical name | | | | | | |
|----------|--|----------|--------------|---------|---|--|--|
| | Exposure routes | Method | Dose | Species | Source | | |
| 67-63-0 | propan-2-ol; isopropyl alcohol; iso | propanol | | | | | |
| | oral | LD50 | 5840 mg/kg | Rat | OECD 401 | | |
| | dermal | LD50 | 12800 mg/kg | Rabbit | GESTIS | | |
| 67-64-1 | acetone; propan-2-one; propanone | | | | | | |
| | oral | LD50 | 5800 mg/kg | Rat | ECHA | | |
| | dermal | LD50 | > 7426 mg/kg | Rabbit | ECHA | | |
| | inhalative (4 h) vapour | LC50 | 76 mg/l | Rat | ECHA | | |
| 107-98-2 | -2 1-methoxy-2-propanol; monopropylene glycol methyl ether | | | | | | |
| | oral | LD50 | 4016 mg/kg | Rat | Regulation (EC) No. 440/2008, Annex, B.1 bis | | |
| | dermal | LD50 | > 2000 mg/kg | Rabbit | Regulation (EC) No. 440/2008, Annex, B.3 | | |

Irritation and corrosivity

Causes serious eye irritation.

Sensitising effects

Based on available data, the classification criteria are not met.

STOT-single exposure

May cause drowsiness or dizziness. (propan-2-ol; isopropyl alcohol; isopropanol), (acetone; propan-2-one; propanone), (1-methoxy-2-propanol; monopropylene glycol methyl ether)

Severe effects after repeated or prolonged exposure

Repeated exposure may cause skin dryness or cracking.

Carcinogenic/mutagenic/toxic effects for reproduction

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Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Additional information on tests

This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

The product is not: ecotoxic.

| CAS No | Chemical name | | | | | | | | |
|----------|---|---|--------------|-----------|--|----------------------|--|--|--|
| | Aquatic toxicity | Method | Dose | [h] [d] | Species | Source | | | |
| 67-63-0 | propan-2-ol; isopropyl alcoh | propan-2-ol; isopropyl alcohol; isopropanol | | | | | | | |
| | Acute fish toxicity | LC50 | 8970 mg/l | 96 h | Leuciscus idus (golden orfe) | IUCLID | | | |
| | Acute crustacea toxicity | EC50 | 9714 mg/l | 1 | Daphnia magna (Big water flea) | IUCLID | | | |
| 67-64-1 | acetone; propan-2-one; prop | oanone | | | | | | | |
| | Acute fish toxicity | LC50 | 6210 mg/l | 96 h | Pimephales promelas (fathead minnow) | OECD 203 | | | |
| | Acute crustacea toxicity | EC50 | 8800 mg/l | 48 h | Daphnia pulex (water flea) | ECHA | | | |
| | Crustacea toxicity | NOEC | > 1106 mg/l | 28 d | Daphnia magna (Big water flea) | IUCLID | | | |
| | Acute bacteria toxicity | (61150 | mg/l) | 0,5 h | Activated sludge | OECD 209 | | | |
| 107-98-2 | 1-methoxy-2-propanol; monopropylene glycol methyl ether | | | | | | | | |
| | Acute fish toxicity | LC50 | 20800 mg/l | | Leuciscus idusPimephales promelas (fathead minnow) | ASTM Standard E729-8 | | | |
| | Acute algae toxicity | ErC50 | > 1000 mg/l | 96 h | Selenastrum capricornutum | OECD 201 | | | |
| | Acute crustacea toxicity | EC50 | 23300 mg/l | | Daphnia magna (Big water flea) | IUCLID | | | |
| | Crustacea toxicity | NOEC | >= 1000 mg/l | | Daphnia magna (Big water flea) | OECD 202 | | | |
| | Acute bacteria toxicity | (> 1000 | mg/l) | 3 h | Activated sludge | OECD 209 | | | |

12.2. Persistence and degradability

The product has not been tested.

| | The product has not been tested. | | | | | | |
|----------|---|--------|----|--|--|--|--|
| CAS No | Chemical name | | | | | | |
| | Method | Value | d | Source | | | |
| | Evaluation | | • | • | | | |
| 67-63-0 | propan-2-ol; isopropyl alcohol; isopropanol | | | | | | |
| | OECD 301E, C.4-B | > 95 % | 28 | IUCLID | | | |
| | Readily biodegradable (according to OECD criteria) | | | | | | |
| 67-64-1 | acetone; propan-2-one; propanone | | | | | | |
| | Carbon dioxide-Concentration | 90,9 % | 28 | OECD 301B/ ISO 9439/ EEC 92/69/V, C.4-C | | | |
| | Readily biodegradable (according to OECD criteria) |). | | | | | |
| 107-98-2 | 1-methoxy-2-propanol; monopropylene glycol methyl eth | er | | | | | |
| | OECD 301E/ EEC 92/69/V, C.4-B | 96 % | 28 | IUCLID | | | |
| | Readily biodegradable (according to OECD criteria) |). | | | | | |

12.3. Bioaccumulative potential

The product has not been tested.

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Partition coefficient n-octanol/water

| CAS No | Chemical name | Log Pow |
|----------|---|---------|
| 67-63-0 | propan-2-ol; isopropyl alcohol; isopropanol | 0,05 |
| 67-64-1 | acetone; propan-2-one; propanone | -0,24 |
| 107-98-2 | 1-methoxy-2-propanol; monopropylene glycol methyl ether | -0,437 |

BCF

| CAS No | Chemical name | BCF | Species | Source |
|---------|----------------------------------|-----|---------|--------|
| 67-64-1 | acetone; propan-2-one; propanone | 3 | | ECHA |

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The product has not been tested.

12.6. Other adverse effects

No information available.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment

Advice on disposal

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Waste disposal number of waste from residues/unused products

080111 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; waste paint and varnish containing organic solvents or other dangerous substances

Classified as hazardous waste.

Waste disposal number of used product

080199 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; wastes not otherwise specified

Waste disposal number of contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by dangerous substances Classified as hazardous waste.

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled.

SECTION 14: Transport information

Land transport (ADR/RID)

| 14.1. UN number: | UN 1263 |
|-----------------------------------|---------|
| 14.2. UN proper shipping name: | Paint |
| 14.3. Transport hazard class(es): | 3 |
| 14.4. Packing group: | II |
| Hazard label: | 3 |

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Classification code: F1

Special provisions: 163 640D 650

Limited quantity: 5 L
Transport category: 2
Hazard No: 33
Tunnel restriction code: D/E

Other applicable information (land transport)

Excepted quantity: E2

Inland waterways transport (ADN)

14.1. UN number:UN 126314.2. UN proper shipping name:Paint14.3. Transport hazard class(es):314.4. Packing group:IIHazard label:3



Classification code: F1

Special provisions: 163 640D 650

Limited quantity: 5 L

Other applicable information (inland waterways transport)

Excepted quantity: E2

Marine transport (IMDG)

14.1. UN number:UN 126314.2. UN proper shipping name:Paint14.3. Transport hazard class(es):314.4. Packing group:IIHazard label:3



Special provisions: 163
Limited quantity: 5 L
EmS: F-E, S-E

Other applicable information (marine transport)

Excepted quantity: E2

Air transport (ICAO)

| <u>14.1. UN number:</u> | UN 1263 |
|-----------------------------------|---------|
| 14.2. UN proper shipping name: | Paint |
| 14.3. Transport hazard class(es): | 3 |
| 14.4. Packing group: | II |
| Hazard label: | 3 |

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Special provisions: A3 A72 Limited quantity passenger: 1 L

IATA-packing instructions - Passenger: 353
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 364
IATA-max. quantity - Cargo: 60 L

Other applicable information (air transport)

Excepted quantity: E2 Passenger-LQ: Y341

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

Warning: Combustible liquids.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information

1999/13/EC (VOC): 97 % (873 g/l)

Additional information

To follow: 850/2004/EC, 689/2008/EC

National regulatory information

Employment restrictions: Observe employment restrictions for adolescents.

Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

acetone; propan-2-one; propanone

1-methoxy-2-propanol; monopropylene glycol methyl ether

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s):

1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16.

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route

(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

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Relevant R-phrases (Number and full text)

Flammable.

Highly flammable.

Irritating to eyes.

Repeated exposure may cause skin dryness or cracking.

Vapors may cause drowsiness and dizziness.

Relevant H- and EUH-phrases (Number and full text)

Highly flammable liquid and vapor.

Flammable liquid and vapor.

Causes serious eye irritation.

May cause drowsiness or dizziness.

Repeated exposure may cause skin dryness or cracking.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)