



## Safety Data Sheet according to (EC) No 1907/2006 as amended

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BONDERITE L-GP 580 ACHESON known as DAG 580

SDS No. : 364112  
V003.0

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

#### 1.1. Product identifier

BONDERITE L-GP 580 ACHESON known as DAG 580

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

Intended use:

Conductive dry film product

#### 1.3. Details of the supplier of the safety data sheet

Henkel Ltd

Wood Lane End

HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 1442 278000

Fax-no.: +44 1442 278071

ua-productsafety.uk@henkel.com

#### 1.4. Emergency telephone number

24 Hours Emergency Tel: +44 0 8701 906777 - For further general health & safety, technical and practical advice on this product, please call +44 (0) 1606 593933 or write to: Technical Services; Henkel Limited; Road 5; Winsford Industrial Estate; Winsford; Cheshire; CW7 3QY- Email: technical.services@henkel.co.uk

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (CLP):

Flammable liquids

Category 2

H225 Highly flammable liquid and vapor.

Serious eye irritation

Category 2

H319 Causes serious eye irritation.

Specific target organ toxicity - single exposure

Category 2

H371 May cause damage to organs.

#### 2.2. Label elements

##### Label elements (CLP):

##### Hazard pictogram:



Contains

methanol

|                                                |                                                                                                                                                    |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Signal word:</b>                            | Danger                                                                                                                                             |
| <b>Hazard statement:</b>                       | H225 Highly flammable liquid and vapor.<br>H319 Causes serious eye irritation.<br>H371 May cause damage to organs.                                 |
| <b>Precautionary statement:<br/>Prevention</b> | P210 Keep away from heat/open flames/hot surfaces. - No smoking.<br>P260 Do not breathe mist/vapours.<br>P280 Wear eye protection/face protection. |
| <b>Precautionary statement:<br/>Response</b>   | P370+P378 In case of fire: Use CO <sub>2</sub> , dry chemical, or foam for extinction.                                                             |

**2.3. Other hazards**

None if used properly.

Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Base substances of preparation:**Pigment  
Solvent mixture**Declaration of the ingredients according to CLP (EC) No 1272/2008:**

| Hazardous components<br>CAS-No. | EC Number<br>REACH-Reg No.    | content  | Classification                                                                                                                              |
|---------------------------------|-------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Ethanol<br>64-17-5              | 200-578-6<br>01-2119457610-43 | 60- 80 % | Eye Irrit. 2<br>H319<br>Flam. Liq. 2<br>H225                                                                                                |
| methanol<br>67-56-1             | 200-659-6<br>01-2119433307-44 | 1- < 5 % | Flam. Liq. 2<br>H225<br>Acute Tox. 3; Inhalation<br>H331<br>Acute Tox. 3; Dermal<br>H311<br>Acute Tox. 3; Oral<br>H301<br>STOT SE 1<br>H370 |
| acetone<br>67-64-1              | 200-662-2<br>01-2119471330-49 | 1- < 5 % | Flam. Liq. 2<br>H225<br>Eye Irrit. 2<br>H319<br>STOT SE 3<br>H336                                                                           |

**For full text of the H - statements and other abbreviations see section 16 "Other information".****Substances without classification may have community workplace exposure limits available.****SECTION 4: First aid measures****4.1. Description of first aid measures**

Inhalation:

Move to fresh air, consult doctor if complaint persists.

**Skin contact:**

Rinse with running water and soap. Apply replenishing cream. Change all contaminated clothing.  
In case of adverse health effects seek medical advice.

**Eye contact:**

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

In case of adverse health effects seek medical advice.

**Ingestion:**

Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

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

EYE: Irritation, conjunctivitis.

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

See section: Description of first aid measures

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media:**

Carbon dioxide, foam, powder  
Water spray jet

**Extinguishing media which must not be used for safety reasons:**

High pressure waterjet

**5.2. Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in fires.

**5.3. Advice for firefighters**

Wear protective equipment.

**Additional information:**

Cool endangered containers with water spray jet.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Avoid skin and eye contact.

**6.2. Environmental precautions**

Do not empty into drains / surface water / ground water.

**6.3. Methods and material for containment and cleaning up**

Take up with liquid-absorbing material (sand).

Dispose of contaminated material as waste according to Section 13.

**6.4. Reference to other sections**

See advice in section 8

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

Avoid skin and eye contact.

Ensure that workrooms are adequately ventilated.

See advice in section 8

Avoid open flames and sources of ignition.

Ground/bond container and receiving equipment.

Use explosion proof electric equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Hygiene measures:

- Wash hands before work breaks and after finishing work.
- Do not eat, drink or smoke when using this product.

**7.2. Conditions for safe storage, including any incompatibilities**

- Ensure good ventilation/extraction.
- Storage at 8 to 28°C is recommended.

**7.3. Specific end use(s)**

- Conductive dry film product

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational Exposure Limits

Valid for  
Great Britain

| Ingredient [Regulated substance]                     | ppm   | mg/m <sup>3</sup> | Value type                        | Short term exposure limit category / Remarks | Regulatory list |
|------------------------------------------------------|-------|-------------------|-----------------------------------|----------------------------------------------|-----------------|
| Ethanol<br>64-17-5<br>[ETHANOL]                      | 1.000 | 1.920             | Time Weighted Average (TWA):      |                                              | EH40 WEL        |
| Graphite<br>7782-42-5<br>[GRAPHITE, INHALABLE DUST]  |       | 10                | Time Weighted Average (TWA):      |                                              | EH40 WEL        |
| Graphite<br>7782-42-5<br>[GRAPHITE, RESPIRABLE DUST] |       | 4                 | Time Weighted Average (TWA):      |                                              | EH40 WEL        |
| Methanol<br>67-56-1<br>[METHANOL]                    |       |                   | Skin designation:                 | Can be absorbed through the skin.            | EH40 WEL        |
| Methanol<br>67-56-1<br>[METHANOL]                    | 200   | 266               | Time Weighted Average (TWA):      |                                              | EH40 WEL        |
| Methanol<br>67-56-1<br>[METHANOL]                    | 200   | 260               | Time Weighted Average (TWA):      | Indicative                                   | ECLTV           |
| Methanol<br>67-56-1<br>[METHANOL]                    | 250   | 333               | Short Term Exposure Limit (STEL): | 15 minutes                                   | EH40 WEL        |
| Acetone<br>67-64-1<br>[ACETONE]                      | 500   | 1.210             | Time Weighted Average (TWA):      |                                              | EH40 WEL        |
| Acetone<br>67-64-1<br>[ACETONE]                      | 500   | 1.210             | Time Weighted Average (TWA):      | Indicative                                   | ECLTV           |
| Acetone<br>67-64-1<br>[ACETONE]                      | 1.500 | 3.620             | Short Term Exposure Limit (STEL): | 15 minutes                                   | EH40 WEL        |

#### Occupational Exposure Limits

Valid for  
Ireland

| Ingredient [Regulated substance]                                                    | ppm   | mg/m <sup>3</sup> | Value type                        | Short term exposure limit category / Remarks | Regulatory list |
|-------------------------------------------------------------------------------------|-------|-------------------|-----------------------------------|----------------------------------------------|-----------------|
| Ethanol<br>64-17-5<br>[ETHANOL]                                                     | 1.000 |                   | Short Term Exposure Limit (STEL): | 15 minutes                                   | IR_OEL          |
| Graphite<br>7782-42-5<br>[GRAPHITE (ALL FORMS EXCEPT FIBRES) (RESPIRABLE FRACTION)] |       | 2                 | Time Weighted Average (TWA):      |                                              | IR_OEL          |
| Graphite<br>7782-42-5<br>[GRAPHITE (ALL FORMS EXCEPT FIBRES)]                       |       | 2                 | Time Weighted Average (TWA):      |                                              | IR_OEL          |
| Methanol<br>67-56-1<br>[METHANOL]                                                   | 200   | 260               | Time Weighted Average (TWA):      | Indicative OELV                              | IR_OEL          |
| Methanol<br>67-56-1<br>[METHANOL]                                                   |       |                   | Skin designation:                 | Can be absorbed through the skin.            | IR_OEL          |
| Methanol<br>67-56-1<br>[METHANOL]                                                   | 200   | 260               | Time Weighted Average (TWA):      | Indicative                                   | ECLTV           |
| Acetone<br>67-64-1<br>[ACETONE]                                                     | 500   | 1.210             | Time Weighted Average (TWA):      | Indicative OELV                              | IR_OEL          |

|                                 |     |       |                                 |            |       |
|---------------------------------|-----|-------|---------------------------------|------------|-------|
| Acetone<br>67-64-1<br>[ACETONE] | 500 | 1.210 | Time Weighted Average<br>(TWA): | Indicative | ECTLV |
|---------------------------------|-----|-------|---------------------------------|------------|-------|

**Predicted No-Effect Concentration (PNEC):**

| Name on list        | Environmental<br>Compartment       | Exposure<br>period | Value     |     |            |        | Remarks |
|---------------------|------------------------------------|--------------------|-----------|-----|------------|--------|---------|
|                     |                                    |                    | mg/l      | ppm | mg/kg      | others |         |
| Ethanol<br>64-17-5  | aqua<br>(freshwater)               |                    | 0,96 mg/l |     |            |        |         |
| Ethanol<br>64-17-5  | aqua (marine<br>water)             |                    | 0,79 mg/l |     |            |        |         |
| Ethanol<br>64-17-5  | aqua<br>(intermittent<br>releases) |                    | 2,75 mg/l |     |            |        |         |
| Ethanol<br>64-17-5  | sewage<br>treatment plant<br>(STP) |                    | 580 mg/l  |     |            |        |         |
| Ethanol<br>64-17-5  | sediment<br>(freshwater)           |                    |           |     | 3,6 mg/kg  |        |         |
| Ethanol<br>64-17-5  | sediment<br>(marine water)         |                    |           |     | 2,9 mg/kg  |        |         |
| Ethanol<br>64-17-5  | Soil                               |                    |           |     | 0,63 mg/kg |        |         |
| Ethanol<br>64-17-5  | oral                               |                    |           |     | 380 mg/kg  |        |         |
| methanol<br>67-56-1 | aqua<br>(freshwater)               |                    | 20,8 mg/l |     |            |        |         |
| methanol<br>67-56-1 | sediment<br>(freshwater)           |                    |           |     | 77 mg/kg   |        |         |
| methanol<br>67-56-1 | aqua (marine<br>water)             |                    | 2,08 mg/l |     |            |        |         |
| methanol<br>67-56-1 | Soil                               |                    |           |     | 100 mg/kg  |        |         |
| methanol<br>67-56-1 | sewage<br>treatment plant<br>(STP) |                    | 100 mg/l  |     |            |        |         |
| methanol<br>67-56-1 | aqua<br>(intermittent<br>releases) |                    | 1540 mg/l |     |            |        |         |
| methanol<br>67-56-1 | sediment<br>(marine water)         |                    |           |     | 7,7 mg/kg  |        |         |
| acetone<br>67-64-1  | aqua<br>(intermittent<br>releases) |                    | 21 mg/l   |     |            |        |         |
| acetone<br>67-64-1  | sewage<br>treatment plant<br>(STP) |                    | 100 mg/l  |     |            |        |         |
| acetone<br>67-64-1  | sediment<br>(freshwater)           |                    |           |     | 30,4 mg/kg |        |         |
| acetone<br>67-64-1  | sediment<br>(marine water)         |                    |           |     | 3,04 mg/kg |        |         |
| acetone<br>67-64-1  | Soil                               |                    |           |     | 29,5 mg/kg |        |         |
| acetone<br>67-64-1  | aqua<br>(freshwater)               |                    | 10,6 mg/l |     |            |        |         |
| acetone<br>67-64-1  | aqua (marine<br>water)             |                    | 1,06 mg/l |     |            |        |         |

**Derived No-Effect Level (DNEL):**

| Name on list        | Application Area   | Route of Exposure | Health Effect                                | Exposure Time | Value      | Remarks |
|---------------------|--------------------|-------------------|----------------------------------------------|---------------|------------|---------|
| Ethanol<br>64-17-5  | Workers            | dermal            | Long term exposure - systemic effects        |               | 343 mg/kg  |         |
| Ethanol<br>64-17-5  | Workers            | inhalation        | Long term exposure - systemic effects        |               | 950 mg/m3  |         |
| Ethanol<br>64-17-5  | General population | dermal            | Long term exposure - systemic effects        |               | 206 mg/kg  |         |
| Ethanol<br>64-17-5  | General population | inhalation        | Long term exposure - systemic effects        |               | 114 mg/m3  |         |
| Ethanol<br>64-17-5  | General population | oral              | Long term exposure - systemic effects        |               | 87 mg/kg   |         |
| methanol<br>67-56-1 | Workers            | inhalation        | Long term exposure - systemic effects        |               | 260 mg/m3  |         |
| methanol<br>67-56-1 | Workers            | inhalation        | Acute/short term exposure - systemic effects |               | 260 mg/m3  |         |
| methanol<br>67-56-1 | Workers            | inhalation        | Long term exposure - local effects           |               | 260 mg/m3  |         |
| methanol<br>67-56-1 | Workers            | inhalation        | Acute/short term exposure - local effects    |               | 260 mg/m3  |         |
| methanol<br>67-56-1 | Workers            | dermal            | Long term exposure - systemic effects        |               | 40 mg/kg   |         |
| methanol<br>67-56-1 | Workers            | dermal            | Acute/short term exposure - systemic effects |               | 40 mg/kg   |         |
| methanol<br>67-56-1 | General population | inhalation        | Long term exposure - systemic effects        |               | 50 mg/m3   |         |
| methanol<br>67-56-1 | General population | inhalation        | Acute/short term exposure - systemic effects |               | 50 mg/m3   |         |
| methanol<br>67-56-1 | General population | inhalation        | Long term exposure - local effects           |               | 50 mg/m3   |         |
| methanol<br>67-56-1 | General population | inhalation        | Acute/short term exposure - local effects    |               | 50 mg/m3   |         |
| methanol<br>67-56-1 | General population | dermal            | Long term exposure - systemic effects        |               | 8 mg/kg    |         |
| methanol<br>67-56-1 | General population | dermal            | Acute/short term exposure - systemic effects |               | 8 mg/kg    |         |
| methanol<br>67-56-1 | General population | oral              | Long term exposure - systemic effects        |               | 8 mg/kg    |         |
| methanol<br>67-56-1 | General population | oral              | Acute/short term exposure - systemic effects |               | 8 mg/kg    |         |
| acetone<br>67-64-1  | Workers            | Inhalation        | Acute/short term exposure - local effects    |               | 2420 mg/m3 |         |
| acetone<br>67-64-1  | Workers            | dermal            | Long term exposure - systemic effects        |               | 186 mg/kg  |         |
| acetone<br>67-64-1  | Workers            | Inhalation        | Long term exposure - systemic effects        |               | 1210 mg/m3 |         |
| acetone<br>67-64-1  | General population | dermal            | Long term exposure - systemic effects        |               | 62 mg/kg   |         |
| acetone<br>67-64-1  | General population | Inhalation        | Long term exposure -                         |               | 200 mg/m3  |         |

|                    |                       |      |                                             |  |          |  |
|--------------------|-----------------------|------|---------------------------------------------|--|----------|--|
|                    |                       |      | systemic effects                            |  |          |  |
| acetone<br>67-64-1 | General<br>population | oral | Long term<br>exposure -<br>systemic effects |  | 62 mg/kg |  |

**Biological Exposure Indices:**

None

**8.2. Exposure controls:****Engineering controls:**

Ensure good ventilation/suction at the workplace.

**Respiratory protection:**

In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (EN 14387).

This recommendation should be matched to local conditions.

**Hand protection:**

Chemical-resistant protective gloves (EN 374). Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR;  $\geq 0.7$  mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR;  $\geq 0.7$  mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

**Eye protection:**

Protective goggles

Protective eye equipment should conform to EN166.

**Skin protection:**

Suitable protective clothing

Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

**Advices to personal protection equipment:**

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions.

Personal protective equipment should conform to the relevant EN standard.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

|                                    |                                    |
|------------------------------------|------------------------------------|
| Appearance                         | liquid<br>liquid<br>black          |
| Odor                               | of solvent                         |
| Odour threshold                    | No data available / Not applicable |
| pH                                 | Not applicable                     |
| Melting point                      | No data available / Not applicable |
| Solidification temperature         | No data available / Not applicable |
| Initial boiling point              | 80 °C (176 °F)                     |
| Flash point                        | 10 °C (50 °F); no method           |
| Evaporation rate                   | No data available / Not applicable |
| Flammability                       | No data available / Not applicable |
| Explosive limits                   |                                    |
| lower                              | 3,4 % (V)                          |
| upper                              | 19,0 % (V)                         |
| Vapour pressure<br>(20 °C (68 °F)) | 58,5 mbar                          |



|                                                                                                        |                                    |
|--------------------------------------------------------------------------------------------------------|------------------------------------|
| Vapour pressure<br>(50 °C (122 °F))                                                                    | 296 mbar                           |
| Vapour pressure<br>(55 °C (131 °F))                                                                    | 370 mbar                           |
| Relative vapour density:                                                                               | No data available / Not applicable |
| Density<br>(20 °C (68 °F))                                                                             | 0,90 g/cm <sup>3</sup>             |
| Bulk density                                                                                           | No data available / Not applicable |
| Solubility                                                                                             | No data available / Not applicable |
| Solubility (qualitative)<br>(Solvent: Water)                                                           | Partially miscible                 |
| Partition coefficient: n-octanol/water                                                                 | No data available / Not applicable |
| Auto-ignition temperature                                                                              | No data available / Not applicable |
| Decomposition temperature                                                                              | No data available / Not applicable |
| Viscosity<br>(Brookfield; Instrument: RVT; 20 °C (68 °F);<br>speed of rotation: 20 min <sup>-1</sup> ) | 100 - 250 mPa.s                    |
| Viscosity (kinematic)                                                                                  | No data available / Not applicable |
| Explosive properties                                                                                   | No data available / Not applicable |
| Oxidising properties                                                                                   | No data available / Not applicable |

## 9.2. Other information

No data available / Not applicable

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reaction with strong oxidants.

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

See section reactivity

### 10.4. Conditions to avoid

No decomposition if used according to specifications.

### 10.5. Incompatible materials

See section reactivity.

### 10.6. Hazardous decomposition products

None if used for intended purpose.

In case of fire toxic gases can be released.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute oral toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value<br>type                          | Value        | Species | Method                                   |
|---------------------------------|----------------------------------------|--------------|---------|------------------------------------------|
| Ethanol<br>64-17-5              | LD50                                   | 10.470 mg/kg | rat     | OECD Guideline 401 (Acute Oral Toxicity) |
| methanol<br>67-56-1             | Acute<br>toxicity<br>estimate<br>(ATE) | 300 mg/kg    |         | Expert judgement                         |
| acetone<br>67-64-1              | LD50                                   | 5.800 mg/kg  | rat     | not specified                            |

**Acute dermal toxicity:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value<br>type | Value          | Species | Method                                     |
|---------------------------------|---------------|----------------|---------|--------------------------------------------|
| Ethanol<br>64-17-5              | LD50          | > 2.000 mg/kg  | rabbit  | OECD Guideline 402 (Acute Dermal Toxicity) |
| acetone<br>67-64-1              | LD50          | > 15.688 mg/kg | rabbit  | Draize Test                                |

**Acute inhalative toxicity:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value<br>type | Value      | Test atmosphere | Exposure<br>time | Species | Method                                         |
|---------------------------------|---------------|------------|-----------------|------------------|---------|------------------------------------------------|
| Ethanol<br>64-17-5              | LC50          | 124,7 mg/l | vapour          | 4 h              | rat     | OECD Guideline 403 (Acute Inhalation Toxicity) |
| acetone<br>67-64-1              | LC50          | 76 mg/l    | vapour          | 4 h              | rat     | not specified                                  |

**Skin corrosion/irritation:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result         | Exposure<br>time | Species    | Method                                                   |
|---------------------------------|----------------|------------------|------------|----------------------------------------------------------|
| Ethanol<br>64-17-5              | not irritating |                  | rabbit     | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| methanol<br>67-56-1             | not irritating | 20 h             | rabbit     | BASF Test                                                |
| acetone<br>67-64-1              | not irritating |                  | guinea pig | not specified                                            |

**Serious eye damage/irritation:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result         | Exposure<br>time | Species | Method                                                |
|---------------------------------|----------------|------------------|---------|-------------------------------------------------------|
| Ethanol<br>64-17-5              | irritating     |                  | rabbit  | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| methanol<br>67-56-1             | not irritating |                  | rabbit  | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| acetone<br>67-64-1              | irritating     |                  | rabbit  | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |

**Respiratory or skin sensitization:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result          | Test type                             | Species    | Method                                                             |
|---------------------------------|-----------------|---------------------------------------|------------|--------------------------------------------------------------------|
| Ethanol<br>64-17-5              | not sensitising | Guinea pig maximisation<br>test       | guinea pig | OECD Guideline 406 (Skin Sensitisation)                            |
| Ethanol<br>64-17-5              | not sensitising | Mouse local lymphnode<br>assay (LLNA) | mouse      | OECD Guideline 429 (Skin Sensitisation:<br>Local Lymph Node Assay) |
| methanol<br>67-56-1             | not sensitising | Guinea pig maximisation<br>test       | guinea pig | OECD Guideline 406 (Skin Sensitisation)                            |
| acetone<br>67-64-1              | not sensitising | Guinea pig maximisation<br>test       | guinea pig | not specified                                                      |

**Germ cell mutagenicity:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous substances CAS-No. | Result   | Type of study / Route of administration          | Metabolic activation / Exposure time | Species | Method                                                                                   |
|------------------------------|----------|--------------------------------------------------|--------------------------------------|---------|------------------------------------------------------------------------------------------|
| Ethanol 64-17-5              | negative | bacterial reverse mutation assay (e.g Ames test) |                                      |         | OECD Guideline 471 (Bacterial Reverse Mutation Assay)                                    |
| Ethanol 64-17-5              | negative | in vitro mammalian chromosome aberration test    | without                              |         | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)                       |
| Ethanol 64-17-5              | negative | mammalian cell gene mutation assay               | with and without                     |         | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)                          |
| methanol 67-56-1             | negative | bacterial reverse mutation assay (e.g Ames test) | with and without                     |         | OECD Guideline 471 (Bacterial Reverse Mutation Assay)                                    |
| methanol 67-56-1             | negative | in vitro mammalian cell micronucleus test        | without                              |         | not specified                                                                            |
| methanol 67-56-1             | negative | mammalian cell gene mutation assay               | with and without                     |         | equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| acetone 67-64-1              | negative | bacterial reverse mutation assay (e.g Ames test) | with and without                     |         | OECD Guideline 471 (Bacterial Reverse Mutation Assay)                                    |
| acetone 67-64-1              | negative | in vitro mammalian chromosome aberration test    | with and without                     |         | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)                       |
| acetone 67-64-1              | negative | mammalian cell gene mutation assay               | without                              |         | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)                          |
| Ethanol 64-17-5              | negative |                                                  |                                      |         | OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration Test)                    |
| methanol 67-56-1             | negative | intraperitoneal                                  |                                      | mouse   | equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)    |
| acetone 67-64-1              | negative | oral: drinking water                             |                                      | mouse   | not specified                                                                            |

**Carcinogenicity**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous components CAS-No. | Result           | Route of application | Exposure time / Frequency of treatment | Species | Sex         | Method                                                                                         |
|------------------------------|------------------|----------------------|----------------------------------------|---------|-------------|------------------------------------------------------------------------------------------------|
| Ethanol 64-17-5              | not carcinogenic |                      |                                        |         |             | Expert judgement                                                                               |
| methanol 67-56-1             | not carcinogenic | inhalation: vapour   | 18 m<br>19 h/d                         | mouse   | male/female | equivalent or similar OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies) |
| acetone 67-64-1              | not carcinogenic | dermal               | 424 d<br>3 times per week              | mouse   | female      | not specified                                                                                  |

**Reproductive toxicity:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result / Value                                               | Test type                  | Route of<br>application | Species | Method                                                                 |
|---------------------------------|--------------------------------------------------------------|----------------------------|-------------------------|---------|------------------------------------------------------------------------|
| Ethanol<br>64-17-5              | NOAEL P 13.800 mg/kg                                         | Two<br>generation<br>study | oral:<br>unspecified    | mouse   | OECD Guideline 416 (Two-<br>Generation Reproduction<br>Toxicity Study) |
| methanol<br>67-56-1             | NOAEL P 1,3 mg/l<br>NOAEL F1 0,13 mg/l<br>NOAEL F2 0,13 mg/l | Two<br>generation<br>study | inhalation              | rat     | OECD Guideline 416 (Two-<br>Generation Reproduction<br>Toxicity Study) |

**STOT-single exposure:**

No data available.

**STOT-repeated exposure::**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result / Value  | Route of<br>application    | Exposure time /<br>Frequency of<br>treatment | Species | Method                                                                                                        |
|---------------------------------|-----------------|----------------------------|----------------------------------------------|---------|---------------------------------------------------------------------------------------------------------------|
| methanol<br>67-56-1             | NOAEL 6,63 mg/l | inhalation                 | 4 weeks<br>6 h/d, 5 d/w                      | rat     | not specified                                                                                                 |
| methanol<br>67-56-1             | NOAEL 0,13 mg/l | inhalation                 | 12 m<br>20 h/d                               | rat     | equivalent or similar to<br>OECD Guideline 453<br>(Combined Chronic<br>Toxicity / Carcinogenicity<br>Studies) |
| acetone<br>67-64-1              | NOAEL 900 mg/kg | oral:<br>drinking<br>water | 13 w<br>daily                                | rat     | OECD Guideline 408<br>(Repeated Dose 90-Day<br>Oral Toxicity in Rodents)                                      |

**Aspiration hazard:**

No data available.

## SECTION 12: Ecological information

### General ecological information:

Do not empty into drains / surface water / ground water.

### 12.1. Toxicity

#### Toxicity (Fish):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value<br>type | Value       | Exposure time | Species             | Method                                                                                  |
|---------------------------------|---------------|-------------|---------------|---------------------|-----------------------------------------------------------------------------------------|
| Ethanol<br>64-17-5              | LC50          | 14.200 mg/l | 96 h          | Pimephales promelas | EPA-660 (Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibians) |
| Ethanol<br>64-17-5              | NOEC          | 250 mg/l    | 120 h         | Danio rerio         | OECD Guideline 212 (Fish, Short-term Toxicity Test on Embryo and Sac-Fry Stages)        |
| methanol<br>67-56-1             | LC50          | 15.400 mg/l | 96 h          | Lepomis macrochirus | EPA-660 (Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibians) |
| methanol<br>67-56-1             | NOEC          | 7.900 mg/l  | 200 h         | Oryzias latipes     | OECD Guideline 210 (fish early lite stage toxicity test)                                |
| acetone<br>67-64-1              | LC50          | 8.120 mg/l  | 96 h          | Pimephales promelas | OECD Guideline 203 (Fish, Acute Toxicity Test)                                          |

#### Toxicity (Daphnia):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value<br>type | Value       | Exposure time | Species            | Method                                                     |
|---------------------------------|---------------|-------------|---------------|--------------------|------------------------------------------------------------|
| Ethanol<br>64-17-5              | EC50          | 5.012 mg/l  | 48 h          | Ceriodaphnia dubia | other guideline:                                           |
| methanol<br>67-56-1             | EC50          | 18.260 mg/l | 96 h          | Daphnia magna      | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| acetone<br>67-64-1              | EC50          | 8.800 mg/l  | 48 h          | Daphnia pulex      | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |

#### Chronic toxicity to aquatic invertebrates

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value<br>type | Value      | Exposure time | Species       | Method                                      |
|---------------------------------|---------------|------------|---------------|---------------|---------------------------------------------|
| Ethanol<br>64-17-5              | NOEC          | 9,6 mg/l   | 9 d           | Daphnia magna | not specified                               |
| acetone<br>67-64-1              | NOEC          | 2.212 mg/l | 28 d          | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |

#### Toxicity (Algae):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value<br>type | Value       | Exposure time | Species                                                                     | Method                                               |
|---------------------------------|---------------|-------------|---------------|-----------------------------------------------------------------------------|------------------------------------------------------|
| Ethanol<br>64-17-5              | EC50          | 275 mg/l    | 72 h          | Chlorella vulgaris                                                          | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| Ethanol<br>64-17-5              | EC10          | 11,5 mg/l   | 72 h          | Chlorella vulgaris                                                          | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| methanol<br>67-56-1             | EC50          | 22.000 mg/l | 96 h          | Selenastrum capricornutum<br>(new name: Pseudokirchneriella<br>subcapitata) | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| acetone<br>67-64-1              | NOEC          | 530 mg/l    | 8 d           | Microcystis aeruginosa                                                      | DIN 38412-09                                         |

#### Toxicity to microorganisms

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value<br>type | Value        | Exposure time | Species                                                | Method                                                                   |
|---------------------------------|---------------|--------------|---------------|--------------------------------------------------------|--------------------------------------------------------------------------|
| Ethanol<br>64-17-5              | IC50          | > 1.000 mg/l | 3 h           | activated sludge                                       | OECD Guideline 209<br>(Activated Sludge,<br>Respiration Inhibition Test) |
| methanol<br>67-56-1             | IC50          | > 1.000 mg/l | 3 h           | activated sludge of a<br>predominantly domestic sewage | OECD Guideline 209<br>(Activated Sludge,<br>Respiration Inhibition Test) |
| acetone<br>67-64-1              | EC10          | 1.000 mg/l   | 30 min        | Pseudomonas putida                                     | DIN 38412, part 27<br>(Bacterial oxygen<br>consumption test)             |

#### 12.2. Persistence and degradability

| Hazardous substances<br>CAS-No. | Result                | Test type | Degradability | Exposure<br>time | Method                                                                                      |
|---------------------------------|-----------------------|-----------|---------------|------------------|---------------------------------------------------------------------------------------------|
| Ethanol<br>64-17-5              | readily biodegradable | aerobic   | 80 - 85 %     | 30 d             | OECD Guideline 301 D (Ready<br>Biodegradability: Closed Bottle<br>Test)                     |
| methanol<br>67-56-1             | readily biodegradable | aerobic   | 82 - 92 %     | 30 d             | EU Method C.4-E (Determination<br>of the "Ready"<br>Biodegradability Closed Bottle<br>Test) |
| acetone<br>67-64-1              | readily biodegradable | aerobic   | 81 - 92 %     | 30 d             | EU Method C.4-E (Determination<br>of the "Ready"<br>Biodegradability Closed Bottle<br>Test) |

#### 12.3. Bioaccumulative potential

No data available.

#### 12.4. Mobility in soil

| Hazardous substances<br>CAS-No. | LogPow | Temperature | Method                                                                             |
|---------------------------------|--------|-------------|------------------------------------------------------------------------------------|
| Ethanol<br>64-17-5              | -0,35  | 24 °C       | not specified                                                                      |
| methanol<br>67-56-1             | -0,77  |             | other guideline:                                                                   |
| acetone<br>67-64-1              | -0,24  |             | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |

### 12.5. Results of PBT and vPvB assessment

| Hazardous substances<br>CAS-No. | PBT / vPvB                                                                                                            |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Ethanol<br>64-17-5              | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| methanol<br>67-56-1             | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| acetone<br>67-64-1              | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |

### 12.6. Other adverse effects

The product contains organic solvents which are insoluble in water. According to the requirements of the ATV regulations for the discharge of wastewater from commercial and industrial plant, organic solvents which are immiscible with water can only be discharged to an extent which corresponds to their solubility in water. The local discharge regulations take precedence.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product disposal:

In consultation with the responsible local authority, must be subjected to special treatment.

Waste code

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

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**SECTION 14: Transport information****14.1. UN number**

|      |      |
|------|------|
| ADR  | 1263 |
| RID  | 1263 |
| ADN  | 1263 |
| IMDG | 1263 |
| IATA | 1263 |

**14.2. UN proper shipping name**

|      |       |
|------|-------|
| ADR  | PAINT |
| RID  | PAINT |
| ADN  | PAINT |
| IMDG | PAINT |
| IATA | Paint |

**14.3. Transport hazard class(es)**

|      |   |
|------|---|
| ADR  | 3 |
| RID  | 3 |
| ADN  | 3 |
| IMDG | 3 |
| IATA | 3 |

**14.4. Packing group**

|      |    |
|------|----|
| ADR  | II |
| RID  | II |
| ADN  | II |
| IMDG | II |
| IATA | II |

**14.5. Environmental hazards**

|      |                |
|------|----------------|
| ADR  | not applicable |
| RID  | not applicable |
| ADN  | not applicable |
| IMDG | not applicable |
| IATA | not applicable |

**14.6. Special precautions for user**

|      |                                             |
|------|---------------------------------------------|
| ADR  | Special provision 640D<br>Tunnelcode: (D/E) |
| RID  | Special provision 640D                      |
| ADN  | Special provision 640D                      |
| IMDG | not applicable                              |
| IATA | not applicable                              |

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

not applicable



**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

|                                                                  |                |
|------------------------------------------------------------------|----------------|
| Ozone Depleting Substance (ODS) (Regulation 1005/2009/EC):       | Not applicable |
| Prior Informed Consent (PIC) (Regulation 649/2012/EC):           | Not applicable |
| Persistent Organic Pollutants (POPs) (Regulation 2019/1021/EC) : | Not applicable |

**EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC):**

|           |             |
|-----------|-------------|
| Contains: | Ethanol     |
|           | CAS 64-17-5 |
|           | methanol    |
|           | CAS 67-56-1 |
|           | acetone     |
|           | CAS 67-64-1 |

This substance is restricted under Entry 40, 69, 40, Refer to Annex XVII of the REACH Regulation for details of the restriction.

|                             |        |
|-----------------------------|--------|
| VOC content<br>(2010/75/EU) | 77,3 % |
|-----------------------------|--------|

This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. Please see [https://ec.europa.eu/home-affairs/what-we-do/policies/counter-terrorism/protection/implementation-explosives-precursors-legislation\\_en](https://ec.europa.eu/home-affairs/what-we-do/policies/counter-terrorism/protection/implementation-explosives-precursors-legislation_en).

**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out.

**National regulations/information (Great Britain):**

|         |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Remarks | Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, e.g COSHH Essentials.<br>EH40 Occupational Exposure Limits<br>Chemicals (Hazard Information & Packaging for Supply) Regulations.<br>The Personnel Protective Equipment at Work Regulations.<br>The Carriage of Dangerous Goods by Road Regulations.<br>The Health & Safety at Work Act 1974.<br>(Note: Use latest editions/amendments of above referenced documents.) |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**SECTION 16: Other information**

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

- H225 Highly flammable liquid and vapor.
- H301 Toxic if swallowed.
- H311 Toxic in contact with skin.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H336 May cause drowsiness or dizziness.
- H370 Causes damage to organs.

**Further information:**

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This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

**Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.**