# SAFETY DATA SHEET

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

### 1.1. Product identifier

**Trade name or designation of the mixture** Dura-Bright® Wheel Wash

**Registration number** -

**Synonyms** GAXDBWW1 * GAXDBWW5 * GAXDBWW25

**Product code** 1559

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

**Identified uses** Cleaning Agent.

**Uses advised against** Uses other than the recommended use.

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

**Company name** Howmet Aerospace
Howmet-Köfém Kft.

**Address** 1-15 Verseci út
8000 Székesfehérvár
Hungary

**Telephone number** +1-412-553-4649

**E-mail** SDSRequests@howmet.com

### 1.4. Emergency telephone number

**General in EU** 112 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

**CHEMTREC** For Dangerous Goods Incidents ONLY (spill, leak, fire, exposure or accident), call CHEMTREC 24/7 at:

**International** +1-703-527-3887

**Canada, USA** (800) 424-9300

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

**Classification according to Regulation (EC) No 1272/2008 as amended**

This mixture does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

### 2.2. Label elements

**Label according to Regulation (EC) No. 1272/2008 as amended**

**Hazard pictograms** None.

**Signal word** None.

**Hazard statements** The mixture does not meet the criteria for classification.

**Precautionary statements**

**Prevention** Not assigned.

**Response** Not assigned.

**Storage** Not assigned.

**Disposal** Not assigned.

**Supplemental information on the label** EUH210 - Safety data sheet available on request.
EUH066 - Repeated exposure may cause skin dryness or cracking.

**2.3. Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. The mixture does not contain any substances included in the list established in accordance with REACH Article 59(1) for having endocrine disrupting properties at a concentration equal to or greater than 0.1% by weight. The mixture does not contain any substances having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1% by weight.

## SECTION 3: Composition/information on ingredients

**3.2. Mixtures**

**General information**

| Chemical name | % | CAS-No. / EC No. | REACH Registration No. | Index No. | Notes |
|---|---|---|---|---|---|
| 2-Butoxyethanol | 3 - 5 | 111-76-2<br>203-905-0 | - | 603-014-00-0 | # |
| **Classification:** | Acute Tox. 4;H302;(ATE: 1200 mg/kg bw), Acute Tox. 4;H312;(ATE: 1100 mg/kg bw), Acute Tox. 4;H332;(ATE: 11 mg/l), Skin Irrit. 2;H315, Eye Irrit. 2;H319, STOT SE 3;H335 | | | | |
| Oxalic acid | < 1 | 144-62-7<br>205-634-3 | - | 607-006-00-8 | # |
| **Classification:** | Acute Tox. 4;H302;(ATE: 500 mg/kg bw), Acute Tox. 4;H312;(ATE: 1100 mg/kg bw), Eye Dam. 1;H318 | | | | |

**List of abbreviations and symbols that may be used above**

ATE: Acute toxicity estimate.
#: This substance has been assigned Union workplace exposure limit(s).

**Composition comments**

The full text for all H-statements is displayed in section 16.
All concentrations are in percent by weight.
Components not listed are either non-hazardous or are below reportable limits.

## SECTION 4: First aid measures

**General information**

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**4.1. Description of first aid measures**

**Inhalation**

Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact**

Wash off with soap and water. Get medical attention if irritation develops and persists.

**Eye contact**

Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion**

Rinse mouth. Get medical attention if symptoms occur.

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

Direct contact with eyes may cause temporary irritation.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

**General fire hazards**

No unusual fire or explosion hazards noted.

**5.1. Extinguishing media**

**Suitable extinguishing media**

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

**Unsuitable extinguishing media**

Do not use water jet as an extinguisher, as this will spread the fire.

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

During fire, gases hazardous to health may be formed. Combustion products may include: carbon oxides.

**5.3. Advice for firefighters**

**Special protective equipment for firefighters**

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Special fire fighting procedures**

Move containers from fire area if you can do so without risk. Use standard firefighting procedures and consider the hazards of other involved materials.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**

Wear appropriate personal protective equipment.

| | |
|---|---|
| **For emergency responders** | Keep unnecessary personnel away. For personal protection, see section 8 of the SDS. |
| **6.2. Environmental precautions** | Avoid discharge into drains, water courses or onto the ground. |
| **6.3. Methods and material for containment and cleaning up** | Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.<br><br>Small Spills: Absorb spillage with suitable absorbent material. Clean surface thoroughly to remove residual contamination.<br><br>Never return spills to original containers for re-use. |
| **6.4. Reference to other sections** | For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS. |

## SECTION 7: Handling and storage

| | |
|---|---|
| **7.1. Precautions for safe handling** | Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Observe good industrial hygiene practices. |
| **7.2. Conditions for safe storage, including any incompatibilities** | Store in tightly closed container. Store away from incompatible materials (see section 10 of the SDS). |
| **7.3. Specific end use(s)** | Observe industrial sector guidance on best practices. |

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Occupational exposure limits**

**Austria. MAK List**

| Components | Type | Value | Form |
|---|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | MAK | 98 mg/m3 | |
| | | 20 ppm | |
| | STEL | 200 mg/m3 | |
| | | 40 ppm | |
| Oxalic acid (CAS 144-62-7) | MAK | 1 mg/m3 | Inhalable fraction. |

**Belgium. OEL. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1 - Chemical agents, as amended**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |
| | | 50 ppm |
| | TWA | 98 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | STEL | 2 mg/m3 |
| | TWA | 1 mg/m3 |

**Bulgaria. OELs. Ordinance No 13 on protection of workers against risks of exposure to chemical agents at work, as amended**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |
| | | 50 ppm |
| | TWA | 98 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Croatia. OELs (GVI). Regulation on Protection of Workers against Exposure to Dangerous Chemicals at Work, OELs and Biological Limit Values, Annex I (NN 91/2018), as amended**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | MAC | 98 mg/m3 |
| | | 20 ppm |
| | STEL | 246 mg/m3 |

**Croatia. OELs (GVI). Regulation on Protection of Workers against Exposure to Dangerous Chemicals at Work, OELs and Biological Limit Values, Annex I (NN 91/2018), as amended**

| Components | Type | Value |
|---|---|---|
| | | 50 ppm |
| Oxalic acid (CAS 144-62-7) | MAC | 1 mg/m3 |

**Cyprus. OELs. Occupational Exposure Limit Values of Chemicals at Work (Safety and Health at Work (Chem. Agents) Reg., Ann. 1, R.A.A. 268/2001, as amended)**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |
| | | 50 ppm |
| | TWA | 98 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Czech Republic. Occupational exposure limit values of chemicals at work (Decree on protection of health at work, 361/2007, Annex 2, Part A & Annex 3, Part A, as amended)**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Ceiling | 200 mg/m3 |
| | TWA | 100 mg/m3 |
| Oxalic acid (CAS 144-62-7) | Ceiling | 5 mg/m3 |
| | TWA | 1 mg/m3 |

**Denmark. Work Environment Authority. Exposure Limits for Substances & Materials, Annex 2**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | TLV | 98 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | STEL | 2 mg/m3 |
| | TLV | 1 mg/m3 |

**Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |
| | | 50 ppm |
| | TWA | 98 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | STEL | 2 mg/m3 |
| | TWA | 1 mg/m3 |

**Finland. HTP-arvot, App 3., Binding Limit Values, Social Affairs and Ministry of Health**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 250 mg/m3 |
| | | 50 ppm |
| | TWA | 98 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | STEL | 3 mg/m3 |
| | TWA | 1 mg/m3 |

**France. OELs. Indicative Occupational Exposure Limits as Prescribed by Order of 30 June 2004, as amended**

| Components | Type | Value |
|---|---|---|
| Oxalic acid (CAS 144-62-7) | VME | 1 mg/m3 |

**France. OELs. Occupational Exposure Limits as Prescribed by Art. R.4412-149 of Labor Code, as amended**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | VLE | 246 mg/m3 |
| | | 50 ppm |
| | VME | 49 mg/m3 |
| | | 10 ppm |

**France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | VLE | 246 mg/m3 |
| **Regulatory status:** Regulatory binding (VRC) | | |
| | | 50 ppm |
| **Regulatory status:** Regulatory binding (VRC) | | |
| | VME | 49 mg/m3 |
| **Regulatory status:** Regulatory binding (VRC) | | |
| | | 10 ppm |
| **Regulatory status:** Regulatory binding (VRC) | | |

**Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG), as updated**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | TWA | 49 mg/m3 |
| | | 10 ppm |

**Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace**

| Components | Type | Value | Form |
|---|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | AGW | 49 mg/m3 | |
| | | 10 ppm | |
| Oxalic acid (CAS 144-62-7) | AGW | 1 mg/m3 | Inhalable fraction. |

**Greece. OELs, Presidential Decree No. 307/1986, as amended**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | TWA | 120 mg/m3 |
| | | 25 ppm |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Hungary. OELs. Decree on protection of workers exposed to chemical agents (5/2020. (II.6)), Annex 1&2, as amended**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |
| | TWA | 98 mg/m3 |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Iceland. OELs. Regulation 390/2009 on Pollution Limits and Measures to Reduce Pollution at the Workplace, as amended**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |
| | | 50 ppm |
| | TWA | 100 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Ireland. OELVs, Schedules 1 & 2, Code of Practise for Chemical Agents and Carcinogens Regulations**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |

**Ireland. OELVs, Schedules 1 & 2, Code of Practise for Chemical Agents and Carcinogens Regulations**

| Components | Type | Value |
|---|---|---|
| | | 50 ppm |
| | TWA | 98 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Italy. OELs**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |
| | | 50 ppm |
| | TWA | 98 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Latvia. OELs. Occupational Exposure Limits of Chemical Substances at Workplace (Reg. No. 325/ 2007, L.V. 80, Annex 1), as amended**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |
| | | 50 ppm |
| | TWA | 98 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Lithuania. OELs. Limit Values for Chemical Substances, General Requirements (Hygiene Norm HN 23:2007)**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 100 mg/m3 |
| | | 20 ppm |
| | TWA | 50 mg/m3 |
| | | 10 ppm |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Luxembourg. OELs. Binding Occupational Exposure Limit Values (Annex I), G.D.R. of 14 November 2016, OJ Memorial A, n ° 235/2016, as amended**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |
| | | 50 ppm |
| | TWA | 98 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Malta. OELs. Protection of Health and Safety of Workers from Risks related to Chemical Agents at Work (L.N 227/2003 Schedules I and V), as amended**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |
| | | 50 ppm |
| | TWA | 98 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Netherlands. OELs per Annex XIII of Working Conditions Regulation (Government Gazette no. 252, 29 December 2006), as amended**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |

**Netherlands. OELs per Annex XIII of Working Conditions Regulation (Government Gazette no. 252, 29 December 2006), as amended**

| Components | Type | Value |
|---|---|---|
| | TWA | 100 mg/m3 |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Norway. Regulation No. 1358 on Measures and Limit Values for Physical and Chemical Factors in the Work Environment and Infection Groups for Biological Factors, as amended**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | TLV | 50 mg/m3 |
| | | 10 ppm |

**Poland. Maximum permissible concentrations and intensities of harmful factors in the work environment (Dz.U.Poz. 1286/2018, Annex 1)**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 200 mg/m3 |
| | TWA | 98 mg/m3 |
| Oxalic acid (CAS 144-62-7) | STEL | 2 mg/m3 |
| | TWA | 1 mg/m3 |

**Portugal. Decree-Law No. 24/2012, Occupational Exposure Limit Values, Annex II, as amended**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |
| | | 50 ppm |
| | TWA | 98 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796-2014)**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | TWA | 20 ppm |
| Oxalic acid (CAS 144-62-7) | STEL | 2 mg/m3 |
| | TWA | 1 mg/m3 |

**Romania. OELs. Limit Values of Chemical Agents at Workplace (Regulation 1.218/2006, M.O 845, Annex 1, 3&4, as amended)**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |
| | | 50 ppm |
| | TWA | 98 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Slovakia. OELs. Decree of the government of the Slovak Republic concerning protection of health in work with chemical agents**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | TWA | 98 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Slovakia. OELs. Maximum permissible exposure limits for chemical factors in workplace air (Regulation No 355/2006, Annex 1, Table 1, as amended)**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |
| | | 50 ppm |

**Slovenia. OELs. Occupational Exposure Limits of Chemicals at Workplace (Reg. on Protection of Workers from Risks due to Exp. to Chemicals at Work, Ann. I 100/2001), as amended**

| Components | Type | Value | Form |
|---|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | KTV | 246 mg/m3 | |
| | | 50 ppm | |
| Oxalic acid (CAS 144-62-7) | KTV | 1 mg/m3 | Inhalable fraction. |

**Slovenia. OELs. Occupational Exposure Limits of Chemicals at Workplace (Reg. on Protection of Workers from Risks due to Exp. to Chemicals at Work, Annex I), as amended**

| Components | Type | Value | Form |
|---|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | TWA | 98 mg/m3 | |
| | | 20 ppm | |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 | Inhalable fraction. |

**Spain. OELs. INSST, Límites de Exposición Profesional Para Agentes Químicos, Table 1-Valores Límites Ambientales (VLAs)**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 245 mg/m3 |
| | | 50 ppm |
| | TWA | 98 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Sweden. OELs (Annex 1). Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2018:1), as amended**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Ceiling | 246 mg/m3 |
| | | 50 ppm |
| | TWA | 50 mg/m3 |
| | | 10 ppm |
| Oxalic acid (CAS 144-62-7) | STEL | 2 mg/m3 |
| | TWA | 1 mg/m3 |

**Switzerland. SUVA Grenzwerte am Arbeitsplatz: Aktuelle MAK-Werte**

| Components | Type | Value | Form |
|---|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 98 mg/m3 | |
| | | 20 ppm | |
| | TWA | 49 mg/m3 | |
| | | 10 ppm | |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 | Inhalable fraction. |

**UK. OELs. Workplace Exposure Limits (WELs) (EH40/2005 (Fourth Edition 2020)), Table 1**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |
| | | 50 ppm |
| | TWA | 123 mg/m3 |
| | | 25 ppm |
| Oxalic acid (CAS 144-62-7) | STEL | 2 mg/m3 |
| | TWA | 1 mg/m3 |

**EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | STEL | 246 mg/m3 |

**EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU**

| Components | Type | Value |
|---|---|---|
| | | 50 ppm |
| | TWA | 98 mg/m3 |
| | | 20 ppm |
| Oxalic acid (CAS 144-62-7) | TWA | 1 mg/m3 |

**Biological limit values**

**Czech Republic. BELs. Government Decree 432/2003 Sb., as amended**

| Components | Value | Determinant | Specimen | Sampling Time |
|---|---|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | 200 mg/g | Butoxyacetic acid (with hydrolysis) | Creatinine in urine | * |
| | 0,17 mmol/mmol | Butoxyacetic acid (with hydrolysis) | Creatinine in urine | * |

* - For sampling details, please see the source document.

**Germany. TRGS 903, BAT List (Biological Limit Values)**

| Components | Value | Determinant | Specimen | Sampling Time |
|---|---|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | 150 mg/g | Butoxyessigsäure (nach Hydrolyse) | Creatinine in urine | * |

* - For sampling details, please see the source document.

**Spain. BELs. INSST, Límites de Exposición Profesional Para Agentes Químicos, Table 3-Valores Límite Biológicos (VLB)**

| Components | Value | Determinant | Specimen | Sampling Time |
|---|---|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | 200 mg/g | Ácido butoxiacético, con hidrólisis | Creatinine in urine | * |

* - For sampling details, please see the source document.

**Switzerland. SUVA Grenzwerte am Arbeitsplatz: Aktuelle BAT-Werte**

| Components | Value | Determinant | Specimen | Sampling Time |
|---|---|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | 150 mg/g | Butoxyessigsäure (nach Hydrolyse) | Creatinine in urine | * |

* - For sampling details, please see the source document.

**UK. BELs. Biological Monitoring Guidance Values (BMGVs) (EH40/2005 (Fourth Edition 2020)), Table 2**

| Components | Value | Determinant | Specimen | Sampling Time |
|---|---|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | 240 mmol/mol | Butoxyacetic acid | Creatinine in urine | * |

* - For sampling details, please see the source document.

**Recommended monitoring procedures** Follow standard monitoring procedures.

**Derived no effect levels (DNELs)** Not available.

**Predicted no effect concentrations (PNECs)** Not available.

**Exposure guidelines**

**Austria. MAK List**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |
| Oxalic acid (CAS 144-62-7) | Can be absorbed through the skin. |

**Belgium OELs: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Bulgaria OELs: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Croatia ELVs: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Czech Republic PELs: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Denmark GV: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Estonia OELs: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**EU Exposure Limit Values: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Finland Exposure Limit Values: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |
| Oxalic acid (CAS 144-62-7) | Can be absorbed through the skin. |

**France Mandatory OELs (VLEP): Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Germany DFG MAK (advisory): Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Germany TRGS 900 Limit Values: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |
| Oxalic acid (CAS 144-62-7) | Can be absorbed through the skin. |

**Greece OEL: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Hungary OELs: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Iceland OELs: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Ireland Exposure Limit Values: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Italy OELs: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Danger of cutaneous absorption |

**Latvia OELs: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Lithuania OELs: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Luxembourg OELs: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Malta OELs: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Netherlands OELs (binding): Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Norway Exposure Limit Values: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Portugal OELs: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Romania OELs: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Slovakia OELs: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |
| Oxalic acid (CAS 144-62-7) | Can be absorbed through the skin. |

**Spain OELs: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Sweden Threshold Limit Values: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**Switzerland SUVA Limit Values at the Workplace: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

**UK EH40 WEL: Skin designation**

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | Can be absorbed through the skin. |

### 8.2. Exposure controls

**Appropriate engineering controls**

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Individual protection measures, such as personal protective equipment**

**General information**

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

| | |
|---|---|
| **Eye/face protection** | Wear safety glasses with side shields (or goggles). Eye protection should meet standard EN 166. |
| **Skin protection** | |
| **- Hand protection** | Wear appropriate chemical resistant gloves. The need for personal protective equipment (gloves) should be based upon a hazard assessment and recommendations from health/safety professionals. Wear suitable gloves tested to EN374. Suitable gloves can be recommended by the glove supplier. |
| **- Other** | Wear suitable protective clothing. |
| **Respiratory protection** | When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Wear a CEN approved respirator, with appropriate cartridge or canister, suitable for airborne concentration levels present. Appropriate respirator selection should be made by a qualified professional. Follow guidance on selection, use, care and maintenance in accordance with EN 529. |
| **Thermal hazards** | Wear appropriate thermal protective clothing, when necessary. |
| **Hygiene measures** | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |
| **Environmental exposure controls** | Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels. |

## SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| **Physical state** | Liquid. |
| **Form** | Liquid. |
| **Colour** | Light red. |
| **Odour** | Characteristic. |
| **Melting point/freezing point** | Not determined. |
| **Boiling point or initial boiling point and boiling range** | Not determined. |
| **Flammability** | Will burn if involved in a fire. |
| **Upper/lower flammability or explosive limits** | |
| **Explosive limit - lower ( %)** | Not determined. |
| **Explosive limit – upper (%)** | Not determined. |
| **Flash point** | Not determined. |
| **Auto-ignition temperature** | Not determined. |
| **Decomposition temperature** | Not determined. |
| **pH** | 4,4 |
| **Kinematic viscosity** | Not determined. |
| **Solubility** | |
| **Solubility (water)** | Soluble in water. |
| **Partition coefficient (n-octanol/water) (log value)** | Not applicable, product is a mixture. |
| **Vapour pressure** | Not determined. |
| **Density and/or relative density** | |
| **Density** | Not determined. |
| **Vapour density** | Not determined. |
| **Particle characteristics** | Not applicable, product is a liquid. |
| **9.2. Other information** | |
| **9.2.1. Information with regard to physical hazard classes** | No relevant additional information available. |
| **9.2.2. Other safety characteristics** | No relevant additional information available. |

## SECTION 10: Stability and reactivity

| | |
|---|---|
| **10.1. Reactivity** | The product is stable and non-reactive under normal conditions of use, storage and transport. May be corrosive to copper and copper alloys. |
| **10.2. Chemical stability** | Stable up to boiling point. |

**10.3. Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.

**10.4. Conditions to avoid** Contact with incompatible materials.

**10.5. Incompatible materials** Strong oxidising agents. Copper and copper alloys.

**10.6. Hazardous decomposition products** No hazardous decomposition products are known.

## SECTION 11: Toxicological information

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

**Information on likely routes of exposure**

**Inhalation** Prolonged inhalation may be harmful.

**Skin contact** Prolonged skin contact may cause temporary irritation.

**Eye contact** Direct contact with eyes may cause temporary irritation.

**Ingestion** May cause discomfort if swallowed.

**Symptoms** Direct contact with eyes may cause temporary irritation.

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

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

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

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

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

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

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

**IARC Monographs. Overall Evaluation of Carcinogenicity**

2-Butoxyethanol (CAS 111-76-2) 3 Not classifiable as to carcinogenicity to humans.

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

**Specific target organ toxicity - single exposure** Based on available data, the classification criteria are not met.

**Specific target organ toxicity - repeated exposure** Based on available data, the classification criteria are not met.

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

**Mixture versus substance information** No information available.

**11.2. Information on other hazards**

**Endocrine disrupting properties** This mixture does not contain any substances having endocrine disrupting properties with respect to human health as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight.

**Other information** May be harmful if absorbed through skin.

## SECTION 12: Ecological information

**12.1. Toxicity** Based on available data, the classification criteria are not met for hazardous to the aquatic environment.

| Components | | Species | Test Results |
|---|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | | | |
| **Aquatic** | | | |
| Algae | NOEC | Pseudokirchnerella subcapitata | 286 mg/l, 72 hours |
| Crustacea | EC50 | Daphnia magna | 835 mg/l, 48 hours |
| *Acute* | | | |
| Fish | LC50 | Oncorhynchus mykiss | 1474 mg/l, 96 Hours |

**12.2. Persistence and degradability** No data is available on the degradability of this product.

**12.3. Bioaccumulative potential**

**Partition coefficient n-octanol/water (log Kow)** Not applicable, product is a mixture.

| | |
|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | 0,83 |

**Bioconcentration factor (BCF)** Not available.

**12.4. Mobility in soil** The product is completely soluble in water. Expected to be mobile in soil.

**12.5. Results of PBT and vPvB assessment** This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6. Endocrine disrupting properties** This mixture does not contain any substances having endocrine disrupting properties with respect to the environment as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight.

**12.7. Other adverse effects** No data available.

**12.8. Additional information**

**Estonia Dangerous substances in soil Data**

| | |
|---|---|
| Oxalic acid (CAS 144-62-7) | Chemical pesticides (As the total sum of the active substances) 0,5 mg/kg<br>Chemical pesticides (As the total sum of the active substances) 20 mg/kg<br>Chemical pesticides (As the total sum of the active substances) 5 mg/kg |

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

**Residual waste** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

**EU waste code** The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Disposal methods/information** Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

**Special precautions** Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

**ADR**

**14.1. UN number** Not regulated as dangerous goods.

**14.2. UN proper shipping name** Not regulated as dangerous goods.

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

**Class** Not assigned.

**Subsidiary hazard** -

**Hazard No. (ADR)** Not assigned.

**Tunnel restriction code** Not assigned.

**14.4. Packing group** -

**14.5. Environmental hazards** No.

**14.6. Special precautions for user** Not assigned.

**RID**

**14.1. UN number** Not regulated as dangerous goods.

**14.2. UN proper shipping name** Not regulated as dangerous goods.

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

**Class** Not assigned.

**Subsidiary hazard** -

**14.4. Packing group** -

**14.5. Environmental hazards** No.

**14.6. Special precautions for user** Not assigned.

**ADN**

**14.1. UN number** Not regulated as dangerous goods.

**14.2. UN proper shipping name** Not regulated as dangerous goods.

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

**Class** Not assigned.

**Subsidiary hazard** -

**14.4. Packing group** -
**14.5. Environmental hazards** No.
**14.6. Special precautions for user** Not assigned.

**IATA**

**14.1. UN number** Not regulated as dangerous goods.
**14.2. UN proper shipping name** Not regulated as dangerous goods.
**14.3. Transport hazard class(es)**
**Class** Not assigned.
**Subsidiary hazard** -
**14.4. Packing group** -
**14.5. Environmental hazards** No.
**14.6. Special precautions for user** Not assigned.

**IMDG**

**14.1. UN number** Not regulated as dangerous goods.
**14.2. UN proper shipping name** Not regulated as dangerous goods.
**14.3. Transport hazard class(es)**
**Class** Not assigned.
**Subsidiary hazard** -
**14.4. Packing group** -
**14.5. Environmental hazards**
**Marine pollutant** No.
**EmS** Not assigned.
**14.6. Special precautions for user** Not assigned.
**14.7. Maritime transport in bulk according to IMO instruments** Not established.

## SECTION 15: Regulatory information

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

**EU regulations**

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

**Authorisations**

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended**

Not listed.

**Restrictions on use**

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended - Conditions of restriction given for the associated entry number should be considered**

Oxalic acid (CAS 144-62-7) 3

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

**Regulation 2019/1148 on Marketing and Use of Explosive Precursors, Annex I, as amended**

Not listed.

**Regulation 2019/1148 on Marketing and Use of Explosive Precursors, Annex II, as amended**

Not listed.

**Other regulations** The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

**National regulations** Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

**France regulations**

**France INRS Table of Occupational Diseases**

Not regulated.

**15.2. Chemical safety assessment** No Chemical Safety Assessment has been carried out.

## SECTION 16: Other information

**List of abbreviations**

ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.
AGW: Occupational threshold limit value (Arbeitsplatzgrenzwert – Germany).
CAS: Chemical Abstract Service.
CEN: European Committee for Standardization.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
IMO: International Maritime Organization.
MAC: Maximum Allowed Concentration.
PBT: Persistent, bioaccumulative and toxic.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
STEL: Short term exposure limit.
TLV: Threshold Limit Value.
TWA: Time Weighted Average.
VLE: Exposure Limit Value.
VME: Exposure Average Value.
vPvB: Very persistent and very bioaccumulative.

**References** ECHA: European Chemical Agency.
IARC Monographs. Overall Evaluation of Carcinogenicity
NLM: Hazardous Substances Data Base

**Information on evaluation method leading to the classification of mixture** The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

**Full text of any statements, which are not written out in full under sections 2 to 15**

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

**Training information** Follow training instructions when handling this material.

**Disclaimer** Howmet Aerospace cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

# Dura-Bright® Wheel Wash

## Hazard statements

The mixture does not meet the criteria for classification.

EUH210 - Safety data sheet available on request.
EUH066 - Repeated exposure may cause skin dryness or cracking.
Additional information is given in the Safety Data Sheet.

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