

Version: 3.4

Revision Date: 14.04.2021

Print Date: 15.04.2021

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

### 1.1 Product identifier

Trade name : M054-W30 hebro®Serve K (Paste)

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

Use of the Sub-  
stance/Mixture : Pickle for ferrous metals

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

Company : hebro chemie- ZN der Rockwood Specialties Group  
GmbH  
Rostocker Str. 40  
41199 Mönchengladbach  
Contact person : Zentrale hebro chemie  
Telephone : +49 (0) 2166 6009-0  
Telefax : +49 (0) 2166 6009-99  
Contact person product safety : Abteilung Produktsicherheit  
Telephone : +49(0)2166 6009-311  
E-mail address : msds.de@hebro-chemie.de

### 1.4 Emergency telephone number

: Giftinformationszentrum Erfurt:  
+49 (0) 361 730 730

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

Corrosive to metals, Category 1 H290: May be corrosive to metals.  
Acute toxicity, Category 4 H302: Harmful if swallowed.  
Skin corrosion, Category 1B H314: Causes severe skin burns and eye damage.

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements : H290 May be corrosive to metals.

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H302 Harmful if swallowed.  
 H314 Causes severe skin burns and eye damage.

Precautionary statements :

**Prevention:**

P262 Do not get in eyes, on skin, or on clothing.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
 P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P390 Absorb spillage to prevent material damage.

Hazardous components which must be listed on the label:  
 Orthophosphoric acid

**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 information required is contained in this Material Safety Data Sheet.

**SECTION 3: Composition/information on ingredients**

**3.2 Mixtures**

Chemical nature : Preparation based on phosphoric acid

**Hazardous components**

| Chemical name                                | CAS-No.<br>EC-No.<br>Registration number     | Classification<br>(REGULATION (EC)<br>No 1272/2008)  | Concentration<br>(% w/w) |
|--|--|--|--------------------------|
| Orthophosphoric acid                         | 7664-38-2<br>231-633-2<br>01-2119485924-24   | Met. Corr. 1; H290<br>Acute Tox. 4; H302<br>Skin Corr. 1B; H314<br>Note B                      | >= 50 - < 65             |
| Substances with a workplace exposure limit : |  |  |                          |
| Silicon dioxide                              | 112945-52-5<br>231-545-4<br>01-2119379499-16 | Not a hazardous<br>substance or mixture<br>according to Regula-<br>tion (EC) No.<br>1272/2008. | >= 2.5 - < 10            |

For explanation of abbreviations see section 16.

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- If inhaled : Move to fresh air.  
If symptoms persist, call a physician.
- In case of skin contact : Take off all contaminated clothing immediately.  
After contact with skin, wash immediately with plenty of soap and water.
- In case of eye contact : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Call a physician immediately.  
If eye irritation persists, consult a specialist.
- If swallowed : Rinse mouth with water.  
Do NOT induce vomiting.  
If symptoms persist, call a physician.

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

- Symptoms : Erythema  
Blistering  
Pain
- Risks : corrosive effects

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

- Treatment : Treat symptomatically.  
For specialist advice physicians should contact the Poisons Information Service.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry powder  
Water mist
- Unsuitable extinguishing media : High volume water jet

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire-fighting : Hazardous decomposition products formed under fire conditions.  
Carbon dioxide (CO<sub>2</sub>)  
Carbon monoxide  
Exposure to decomposition products may be a hazard to health.  
May react strongly with amphoteric metals (aluminium, lead, zinc, ..): forms Hydrogen (Combustible).

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### 5.3 Advice for firefighters

- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
- Further information : The product itself does not burn.  
Use water spray to cool unopened containers.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Wear suitable protective clothing, gloves and eye/face protection.  
Avoid contact with skin, eyes and clothing.  
Refer to protective measures listed in sections 7 and 8.

### 6.2 Environmental precautions

- Environmental precautions : Inform the relevant authorities if it enters sewers, aquatic environment or soil.

### 6.3 Methods and material for containment and cleaning up

- Methods for cleaning up : Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).  
Keep up mechanically and dispose according to local regulations.  
Neutralize with lime milk or soda and flush with plenty of water.  
Contaminated surfaces will be extremely slippery.

### 6.4 Reference to other sections

See chapter  
8  
and  
13

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Advice on safe handling : Product is used in dilutions with water  
Have eye wash bottle or eye rinse ready at the work place.  
Avoid contact with skin and eyes.
- Advice on protection against fire and explosion : Normal measures for preventive fire protection.

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### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep only in the original container. Plastic containers which are opened must be carefully resealed and kept upright to prevent leakage.

Further information on storage conditions : Protect from frost.

Advice on common storage : Incompatible with bases.

### 7.3 Specific end use(s)

Specific use(s) : Pickle for ferrous metals

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

| Components           | CAS-No.  | Value type (Form of exposure) | Control parameters             | Basis      |
|----------------------|--|-------------------------------|--------------------------------|------------|
| Orthophosphoric acid | 7664-38-2  | TWA                           | 1 mg/m <sup>3</sup>            | 2000/39/EC |
| Further information  | Indicative   |                               |                                |            |
|                      |  | STEL                          | 2 mg/m <sup>3</sup>            | 2000/39/EC |
| Further information  | Indicative   |                               |                                |            |
|                      |  | TWA                           | 1 mg/m <sup>3</sup>            | GB EH40    |
|                      |  | STEL                          | 2 mg/m <sup>3</sup>            | GB EH40    |
| Silicon dioxide      | 112945-52-5  | TWA (inhalable dust)          | 6 mg/m <sup>3</sup> (Silica)   | GB EH40    |
| Further information  | For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m <sup>-3</sup> 8-hour TWA of inhalable dust or 4 mg.m <sup>-3</sup> 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used. |                               |                                |            |
|                      |  | TWA (Respirable dust)         | 2.4 mg/m <sup>3</sup> (Silica) | GB EH40    |

|                     |  |
|---------------------|--|
| Further information | For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m <sup>-3</sup> 8-hour TWA of inhalable dust or 4 mg.m <sup>-3</sup> 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used. |
|---------------------|--|

**Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:**

| Substance name       | End Use | Exposure routes | Potential health effects | Value                  |
|----------------------|---------|-----------------|--------------------------|------------------------|
| Orthophosphoric acid | Workers | Inhalation      | Long-term local effects  | 2.92 mg/m <sup>3</sup> |

**8.2 Exposure controls**

**Personal protective equipment**

- Eye protection : Face-shield  
 Safety glasses with side-shields conforming to EN166
- Hand protection  
 Material : Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374.
- Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The exact break through time can be obtained from the protective glove producer and this has to be observed.
- Skin and body protection : Long sleeved clothing  
 Chemical resistant apron
- Respiratory protection : Use respirator when performing operations involving potential exposure to vapour of the product.
- Protective measures : Follow the skin protection plan.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|  |   |  |
|--|---|--|
| Appearance                             | : | paste  |
| Colour                                 | : | blue   |
| Odour                                  | : | characteristic                                     |
| Odour Threshold                        | : | No data available                                  |
| pH                                     | : | 1.7 (20 °C)<br>Concentration: 10 g/l               |
| Melting point/freezing point           | : | No data available                                  |
| Boiling point/boiling range            | : | No data available                                  |
| Flash point                            | : | No data available                                  |
| Evaporation rate                       | : | No data available                                  |
| Flammability (solid, gas)              | : | No data available                                  |
| Upper explosion limit                  | : | No data available                                  |
| Lower explosion limit                  | : | No data available                                  |
| Vapour pressure                        | : | No data available                                  |
| Relative vapour density                | : | No data available                                  |
| Relative density                       | : | No data available                                  |
| Density                                | : | 1.5 g/cm <sup>3</sup> (20 °C)<br>Method: DIN 51757 |
| Solubility(ies)                        |   |  |
| Water solubility                       | : | 1,000 g/l completely soluble                       |
| Solubility in other solvents           | : | No data available                                  |
| Partition coefficient: n-octanol/water | : | No data available                                  |
| Auto-ignition temperature              | : | No data available                                  |
| Decomposition temperature              | : | No data available                                  |
| Viscosity, dynamic                     | : | No data available                                  |
| Viscosity, kinematic                   | : | No data available                                  |
| Flow time                              | : | No data available                                  |

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Explosive properties : No data available

Oxidizing properties : No data available

## 9.2 Other information

Other physico-chemical properties: This information is not available/not determined.

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No decomposition if stored and applied as directed.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

### 10.4 Conditions to avoid

Conditions to avoid : Product is stable under appropriate usage.

### 10.5 Incompatible materials

Materials to avoid : Bases

### 10.6 Hazardous decomposition products

No data available

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

##### Product:

Acute oral toxicity : Acute toxicity estimate: 774.61 mg/kg  
Method: Calculation method

#### Acute toxicity

##### Components:

##### **Orthophosphoric acid:**

Acute oral toxicity : LD50 (Rat): > 300 mg/kg  
Method: OECD Test Guideline 423

##### **Silicon dioxide:**

Acute oral toxicity : LD50 (Rat): > 10,000 mg/kg  
Remarks: Information taken from reference works and the literature.

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Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg  
Remarks: Information taken from reference works and the literature.

#### **Skin corrosion/irritation**

**Product:**

Remarks: Causes severe burns.

#### **Serious eye damage/eye irritation**

**Product:**

Remarks: Causes serious eye damage.

#### **Respiratory or skin sensitisation**

**Product:**

Remarks: This information is not available.

#### **Germ cell mutagenicity**

**Product:**

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

#### **Carcinogenicity**

**Product:**

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

#### **Reproductive toxicity**

**Product:**

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

#### **STOT - single exposure**

**Product:**

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

#### **STOT - repeated exposure**

**Product:**

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

#### **Aspiration toxicity**

**Product:**

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

#### **Further information**

**Product:**

Remarks: If swallowed, severe burns in the oral cavity and throat as well as danger of perforation of the digestive tract and stomach.

## SECTION 12: Ecological information

### 12.1 Toxicity

**Product:**

Ecotoxicology studies for the product are not available.

**Components:**

**Orthophosphoric acid:**

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

NOEC (Desmodesmus subspicatus (green algae)): 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

**Silicon dioxide:**

Toxicity to fish : LC50 (Brachydanio rerio (Zebra danio)): > 10,000 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l  
Exposure time: 24 h  
Method: OECD Test Guideline 202

### 12.2 Persistence and degradability

**Product:**

Biodegradability : Remarks: No data available

### 12.3 Bioaccumulative potential

**Product:**

Bioaccumulation : Remarks: No data available

### 12.4 Mobility in soil

**Product:**

Mobility : Remarks: No data available

### 12.5 Results of PBT and vPvB assessment

**Product:**

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..

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## 12.6 Other adverse effects

### Product:

Additional ecological information : Do not flush into surface water or sanitary sewer system.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.  
Do not let product enter drains.  
Do not dispose of with domestic refuse.

Contaminated packaging : Dispose of in accordance with local regulations.

Waste Code : 11 01 05 : pickling acids

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## SECTION 14: Transport information

### 14.1 UN number

ADR : UN 1805  
RID : UN 1805  
IMDG : UN 1805  
IATA : UN 1805

### 14.2 UN proper shipping name

ADR : PHOSPHORIC ACID SOLUTION  
RID : PHOSPHORIC ACID SOLUTION  
IMDG : PHOSPHORIC ACID SOLUTION  
IATA : Phosphoric acid, solution

### 14.3 Transport hazard class(es)

ADR : 8  
RID : 8  
IMDG : 8  
IATA : 8

### 14.4 Packing group

ADR  
Packing group : III  
Classification Code : C1  
Hazard Identification Number : 80  
Labels : 8  
Tunnel restriction code : (E)

RID

**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
**M054-W30 hebro®Serve K (Paste)**

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Packing group : III  
Classification Code : C1  
Hazard Identification Number : 80  
Labels : 8

**IMDG**

Packing group : III  
Labels : 8  
EmS Code : F-A, S-B  
Remarks : Acids

**IATA (Cargo)**

Packing instruction (cargo aircraft) : 856  
Packing instruction (LQ) : Y841  
Packing group : III  
Labels : Corrosive

**IATA (Passenger)**

Packing instruction (passenger aircraft) : 852  
Packing instruction (LQ) : Y841  
Packing group : III  
Labels : Corrosive

**14.5 Environmental hazards**

**ADR**

Environmentally hazardous : no

**RID**

Environmentally hazardous : no

**IMDG**

Marine pollutant : no

**14.6 Special precautions for user**

Refer to protective measures listed in sections 7 and 8.

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

Not applicable for product as supplied.

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**SECTION 15: Regulatory information**

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

Other regulations : The product is classified and labelled in accordance with EC directives or respective national laws.  
Regional or national implementations of GHS may not implement all hazard classes and categories.

**15.2 Chemical safety assessment**

A Chemical Safety Assessment is not required for this substance.

## SECTION 16: Other information

### Full text of H-Statements

- H290 : May be corrosive to metals.  
H302 : Harmful if swallowed.  
H314 : Causes severe skin burns and eye damage.

### Full text of other abbreviations

- Acute Tox. : Acute toxicity  
Met. Corr. : Corrosive to metals  
Skin Corr. : Skin corrosion

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

- Other information : The information provided is based on our current knowledge and experience and apply to the product as delivered. Regarding the product properties, these are not guaranteed. The delivery of this safety datasheet does not free the recipient of the product from his own responsibility to follow the relevant rules and regulations concerning this product.  
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.