SAFETY DATA SHEET
Electron Capture Detectors_ECD

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

This product is considered an article. This Safety Data Sheet is written based on the encapsulated substance or mixture in this article.

1.1 Product identifier

<table>
<thead>
<tr>
<th>Product name</th>
<th>Electron Capture Detectors_ECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index number</td>
<td>028-002-01-4</td>
</tr>
<tr>
<td>EC number</td>
<td>231-111-4</td>
</tr>
<tr>
<td>CAS number</td>
<td>13981-37-8</td>
</tr>
<tr>
<td>Chemical formula</td>
<td>$^{63}\text{Ni}$</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Identified uses</th>
</tr>
</thead>
</table>

Analytical chemistry.
The ECD contains a 15 mCi source of radioactive Nickel-63. This source is enclosed within a steel housing. May be contained in: G1530N/ G1530N-EU, G1540N / G1540N-EU, G2690A, G1944A, G2630A/ G2630B, G3440A

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS: pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation): CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product’s directions for use it may present potential health and safety hazards.

2.1 Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]</th>
</tr>
</thead>
<tbody>
<tr>
<td>H317</td>
</tr>
<tr>
<td>H351</td>
</tr>
<tr>
<td>H372</td>
</tr>
<tr>
<td>H412</td>
</tr>
</tbody>
</table>

See Section 16 for the full text of the H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

Date of issue/Date of revision : 28/03/2017
## SECTION 2: Hazards identification

### 2.2 Label elements

<table>
<thead>
<tr>
<th>Hazard pictograms</th>
<th><img src="image" alt="Pictograms" /></th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal word</td>
<td>Danger</td>
</tr>
</tbody>
</table>
| Hazard statements | H317 - May cause an allergic skin reaction.  
H351 - Suspected of causing cancer.  
H372 - Causes damage to organs through prolonged or repeated exposure.  
H412 - Harmful to aquatic life with long lasting effects. |
| Precautionary statements |  |
| Prevention | P201 - Obtain special instructions before use.  
P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.  
P273 - Avoid release to the environment.  
P260 - Do not breathe dust. |
| Response | P314 - Get medical attention if you feel unwell.  
P308 + P313 - IF exposed or concerned: Get medical attention. |
| Storage | P405 - Store locked up. |
| Disposal | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| Supplemental label elements | Not applicable. |
| Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles | Not applicable. |
| Special packaging requirements | Tactile warning of danger | Not applicable. |

### 2.3 Other hazards

| Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII | Not applicable. |
| Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII | Not applicable. |
| Other hazards which do not result in classification | None known. |

## SECTION 3: Composition/information on ingredients

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product’s directions for use it may present potential health and safety hazards.

### 3.1 Substances

| Mono-constituent substance (encapsulated in article) |  |
SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Regulation (EC) No. 1272/2008 [CLP]</th>
<th>Type</th>
</tr>
</thead>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type
[A] Constituent
[B] Impurity
[C] Stabilising additive

SECTION 4: First aid measures

4.1 Description of first aid measures

**Eye contact**: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation**: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact**: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion**: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Protection of first-aiders**: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

**Potential acute health effects**

**Eye contact**: No known significant effects or critical hazards.

**Inhalation**: If vaporized, and all vapors were to be inhaled, the person would receive a dose of 93.75 rem. If a source were to be ground into 1 micrometer diameter particles and all particles were to be inhaled, the total body dose would be approximately 37.5 rem

**Skin contact**: May cause an allergic skin reaction.

**Ingestion**: If the source were to be eaten, the person would receive a dose of 8.3 rem. No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

**Eye contact**: No specific data.
SECTION 4: First aid measures

Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following:
              irritation
              redness
Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture
Hazards from the substance or mixture : This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous combustion products : Decomposition products may include the following materials:
                               metal oxide/oxides

5.3 Advice for firefighters
Special precautions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spill material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

6.3 Methods and material for containment and cleaning up
Methods for cleaning up : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
SECTION 6: Accidental release measures

6.4 Reference to other sections
- See Section 1 for emergency contact information.
- See Section 8 for information on appropriate personal protective equipment.
- See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Storage: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations: Industrial applications, Professional applications.

Industrial sector specific solutions: Not applicable.

SECTION 8: Exposure controls/personal protection

Since the hazardous ingredient in this article is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

8.1 Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TWA: 0.5 mg/m³, (as Ni) 8 hours.</td>
</tr>
</tbody>
</table>

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required. Persons working with an unshielded source at a distance of 16 cm from the source would require continuous exposure of 1,471 hours to obtain the annual public dose rate of 100 mrem. This assumes worst case conditions of exposure angle, source uniformity, and source

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SECTION 8: Exposure controls/personal protection

**Radiation**

No DNELs/DMELs available.

**PNECs**

No PNECs available

8.2 Exposure controls

**Appropriate engineering controls**

If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Individual protection measures**

- **Hygiene measures**
  
  Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

- **Eye/face protection**
  
  Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

- **Skin protection**
  
  - **Hand protection**
    
    Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

  - **Body protection**
    
    Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

  - **Other skin protection**
    
    Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

  - **Respiratory protection**
    
    Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

  - **Environmental exposure controls**
    
    Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

**Appearance**

- **Physical state**
  
  Solid.

- **Colour**
  
  Not available.

- **Odour**
  
  Not available.

- **Odour threshold**
  
  Not available.

- **pH**
  
  Not available.

- **Melting point/freezing point**
  
  1453°C

- **Initial boiling point and boiling range**
  
  Not available.
SECTION 9: Physical and chemical properties

Flash point : Not available.
Evaporation rate : Not available.
Flammability (solid, gas) : Not available.
Upper/lower flammability or explosive limits : Not available.
Vapour pressure : Not available.
Vapour density : Not available.
Relative density : Not available.
Solubility(ies) : Not available.
Partition coefficient: n-octanol/water : Not available.
Auto-ignition temperature : Not available.
Decomposition temperature : Not available.
Viscosity : Not available.
Explosive properties : Not available.
Oxidising properties : Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel, isotope of mass 63</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;9000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.
Respiratory : May cause sensitisation by inhalation.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)
SECTION 11: Toxicological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel, isotope of mass 63</td>
<td>Category 1</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

**Aspiration hazard**

Not available.

**Information on likely routes of exposure**

- **Inhalation**: Routes of entry anticipated: Oral, Dermal, Inhalation.

**Potential acute health effects**

- **Inhalation**: If vaporized, and all vapors were to be inhaled, the person would receive a dose of 93.75 rem. If a source were to be ground into 1 micrometer diameter particles and all particles were to be inhaled, the total body dose would be approximately 37.5 rem.
- **Ingestion**: If the source were to be eaten, the person would receive a dose of 8.3 rem. No known significant effects or critical hazards.
- **Skin contact**: May cause an allergic skin reaction. No known significant effects or critical hazards.
- **Eye contact**: Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Symptoms related to the physical, chemical and toxicological characteristics**

- **Inhalation**: No specific data.
- **Ingestion**: No specific data.
- **Skin contact**: Adverse symptoms may include the following: irritation, redness.
- **Eye contact**: No specific data.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Short term exposure**

- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

**Long term exposure**

- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

**Potential chronic health effects**

- **General**: Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- **Carcinogenicity**: Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- **Mutagenicity**: No known significant effects or critical hazards.
- **Teratogenicity**: No known significant effects or critical hazards.
- **Developmental effects**: No known significant effects or critical hazards.
- **Fertility effects**: No known significant effects or critical hazards.
- **Other information**: Adverse symptoms include the following: pulmonary fibrosis. Adverse symptoms may include the following: Persons working with an unshielded source at a distance of 16 cm from the source would require continuous exposure of 1,471 hours to obtain the annual public dose rate of 100 mrem. This assumes worst case conditions of exposure angle, source uniformity, and source radiation.

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SECTION 12: Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel, isotope of mass 63</td>
<td>Chronic NOEC 100 mg/l</td>
<td>Marine water</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Algae - Glenodinium halli</td>
<td></td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability

Not available.

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel, isotope of mass 63</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

<table>
<thead>
<tr>
<th>Soil/water partition coefficient (K&lt;sub&gt;OC&lt;/sub&gt;)</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 to 1100</td>
<td>Not available</td>
</tr>
</tbody>
</table>

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.
P: Not available. B: Not available. T: Not available.

vPvB: Not applicable.
vP: Not available. vB: Not available.

12.6 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

<table>
<thead>
<tr>
<th>Product</th>
<th>Methods of disposal</th>
<th>Hazardous waste</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.</td>
<td>The classification of the product may meet the criteria for a hazardous waste.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Packaging</th>
<th>Methods of disposal</th>
<th>Special precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.</td>
<td>This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.</td>
</tr>
</tbody>
</table>

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SECTION 14: Transport information

This Safety Data Sheet is written based on the encapsulated substance or mixture in this article. Since the hazardous ingredient is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

Additional information: Special provisions

<table>
<thead>
<tr>
<th></th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1 UN number</td>
<td>UN2911</td>
<td>UN2911</td>
<td>UN2911</td>
</tr>
<tr>
<td>14.2 UN proper shipping name</td>
<td>RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - ARTICLES</td>
<td>RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - ARTICLES</td>
<td>Radioactive material, excepted package —; articles</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.5 Environmental hazards</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
</tbody>
</table>

Limited quantity: 0

Special provisions: 290

Tunnel code: (E)

Emergency schedules (EmS): F-I, S-S

Special provisions: 290

Passenger and Cargo Aircraft: Packaging instructions: See 10.3 Cargo Aircraft Only

Packaging instructions: See 10.3 Limited Quantities - Passenger Aircraft

Quantity limitation: Forbidden

Packaging instructions: Forbidden

Special provisions: A130

14.6 Special precautions for user: Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)
Annex XIV - List of substances subject to authorisation
Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

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10/12
### SECTION 15: Regulatory information

**Annex XVII - Restrictions**
on the manufacture,  
placing on the market  
and use of certain  
dangerous substances,  
mixtures and articles

**Other EU regulations**

Europe inventory  
This material is listed or exempted.

**Ozone depleting substances** *(1005/2009/EU)*
Not listed.

**Prior Informed Consent (PIC)** *(649/2012/EU)*
Not listed.

**Seveso Directive**
This product is not controlled under the Seveso Directive.

**Seismic data**

**International regulations**

**Chemical Weapon Convention List Schedules I, II & III Chemicals**
Not listed.

**Montreal Protocol (Annexes A, B, C, E)**
Not listed.

**Stockholm Convention on Persistent Organic Pollutants**
Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**
Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**
Not listed.

**International lists**

**National inventory**

**Australia**  
This material is listed or exempted.

**Canada**  
Not determined.

**China**  
This material is listed or exempted.

**Japan**

- **Japan inventory (ENCS)**: This material is listed or exempted.
- **Japan inventory (ISHL)**: This material is listed or exempted.

**Malaysia**  
This material is listed or exempted.

**New Zealand**  
Not determined.

**Philippines**  
Not determined.

**Republic of Korea**  
Not determined.

**Taiwan**  
This material is listed or exempted.

**Turkey**  
Not determined.

**United States**  
This material is listed or exempted.

#### 15.2 Chemical safety assessment
This product contains substances for which Chemical Safety Assessments might still be required.

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**Date of issue/Date of revision**  
28/03/2017
**SECTION 16: Other information**

Indicates information that has changed from previously issued version.

### Abbreviations and acronyms
- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number

### Key literature references and sources for data

### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
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<tbody>
<tr>
<td>Skin Sens. 1, H317</td>
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<td>Carc. 2, H351</td>
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<td>STOT RE 1, H372</td>
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<tr>
<td>Aquatic Chronic 3, H412</td>
<td>Regulatory data</td>
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</tbody>
</table>

### Full text of abbreviated H statements

- **H317**: May cause an allergic skin reaction.
- **H351**: Suspected of causing cancer.
- **H372**: Causes damage to organs through prolonged or repeated exposure.
- **H412**: Harmful to aquatic life with long lasting effects.

### Full text of classifications [CLP/GHS]

- **Aquatic Chronic 3, H412**: LONG-TERM AQUATIC HAZARD - Category 3
- **Carc. 2, H351**: CARCINOGENICITY - Category 2
- **Skin Sens. 1, H317**: SKIN SENSITISATION - Category 1
- **STOT RE 1, H372**: SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1

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