2.1. Manufacture

**Table 11. Manufacture**

| **Identifiers** | **Use descriptors** | **Other information** |
| --- | --- | --- |
| M-1: Manufacturing of the substance including storage, handling and q control | **Environmental release category (ERC):**  ERC 1: Manufacture of the substance  **Process category (PROC):**  PROC 1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.  PROC 2: Chemical production or refinery in closed  continuous process with occasional controlled exposure or processes with equivalent containment conditions  PROC 3: Manufacture or formulation in the chemical industry in closed batch processes  with occasional controlled exposure or processes with equivalent containment condition  PROC 8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities  PROC 8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities  PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  PROC 14: Tabletting, compression, extrusion, pelletisation, granulation  PROC 15: Use as laboratory reagent |  |

2.2. Identified uses

For all the following identified uses, it concerns uses of the substance Magnesium nitrate hexahydrate, which is non-classified in accordance with the CLP Regulation.

Aqueous magnesium nitrate solution (with <5% calcium nitrate and <5% nitric acid), which is classified as hazardous (see below), can be used in many of these uses. In Chapter 9, exposure scenarios are included for the applicable identified uses (see Table 50).

**Table 12. Formulation**

| **Identifiers** | **Use descriptors** | **Other information** |
| --- | --- | --- |
| F-2: Sampling, loading, filling, transfer, dumping, bagging of substance (charging/discharching) at non-dedicated facilities. Industrial setting | **Environmental release category (ERC):**  ERC 2: Formulation into mixture  **Process category (PROC):**  PROC 8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities  **Product Category formulated:**  PC 12: Fertilisers  PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents  PC 21: Laboratory chemicals  PC 36: Water softeners  PC 37: Water treatment chemicals  PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates  Fertilisers | Substance supplied to that use:  As such  In a mixture |
| F-3: Sampling, loading, filling, transfer, dumping, bagging of substance (charging/discharching) at dedicated facilities. Industrial setting. | **Environmental release category (ERC):**  ERC 2: Formulation into mixture  **Process category (PROC):**  PROC 8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities  **Product Category formulated:**  PC 12: Fertilisers  PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents  PC 21: Laboratory chemicals  PC 36: Water softeners  PC 37: Water treatment chemicals  PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates  Fertilisers | Substance supplied to that use:  As such  In a mixture |
| F-4: Transfer of substance into small containers (dedicated filling line, including weighing). Industrial setting. | **Environmental release category (ERC):**  ERC 2: Formulation into mixture  **Process category (PROC):**  PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  **Product Category formulated:**  PC 12: Fertilisers  PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents  PC 21: Laboratory chemicals  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates  Fertilisers | Substance supplied to that use:  As such  In a mixture |
| F-5: Q control | **Environmental release category (ERC):**  ERC 2: Formulation into mixture  **Process category (PROC):**  PROC 15: Use as laboratory reagent  **Product Category formulated:**  PC 12: Fertilisers  PC 21: Laboratory chemicals  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates  Fertilisers | Substance supplied to that use:  As such  In a mixture |
| F-6: Use of magnesium nitrate for formulation of preparations for biocidal products, fertilizers, processing aids, laboratory chemicals and plant protection | **Environmental release category (ERC):**  ERC 2: Formulation into mixture ERC 3: Formulation into solid matrix  **Process category (PROC):**  PROC 1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.  PROC 2: Chemical production or refinery in closed  continuous process with occasional controlled exposure or processes with equivalent containment conditions  PROC 3: Manufacture or formulation in the chemical industry in closed batch processes  with occasional controlled exposure or processes with equivalent containment condition  PROC 4: Chemical production where opportunity for exposure arises  PROC 5: Mixing or blending in batch processes  PROC 8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities  PROC 8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities  PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  PROC 13: Treatment of articles by dipping and pouring  PROC 14: Tabletting, compression, extrusion, pelletisation, granulation  PROC 15: Use as laboratory reagent  PROC 19: Manual activities involving hand contact  PROC 28: Manual maintenance (cleaning and repair) of machinery  **Product Category formulated:**  PC 8: Biocidal products (e.g. disinfectants, pest control)  PC 12: Fertilisers  PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents  PC 21: Laboratory chemicals  PC 27: Plant protection products  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates  Fertilisers | Substance supplied to that use:  As such  In a mixture  Remarks:  ERC2 : Fertilizer Sector Uses Map FE\_F\_001\_v1  ERC3 : Fertilizer Sector Uses Map FE\_F\_002\_v1 |

**Table 13. Uses at industrial sites**

| **Identifiers** | **Use descriptors** | **Other information** |
| --- | --- | --- |
| IW-7: Industrial use as intermediate to synthesize other substances and use of reactive processing aid in fertilizer manufacturing | **Environmental release category (ERC):**  ERC 6a: Use of intermediate  ERC 6b: Use of reactive processing aid at industrial site (no inclusion into or onto article)  **Process category (PROC):**  PROC 1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  PROC 2: Chemical production or refinery in closed  continuous process with occasional controlled exposure or processes with equivalent containment conditions  PROC 3: Manufacture or formulation in the chemical industry in closed batch processes  with occasional controlled exposure or processes with equivalent containment condition  PROC 4: Chemical production where opportunity for exposure arises  PROC 5: Mixing or blending in batch processes  PROC 7: Industrial spraying  PROC 8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities  PROC 8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities  PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  PROC 15: Use as laboratory reagent  PROC 16: Use of fuels  PROC 19: Manual activities involving hand contact  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates | Substance supplied to that use:  As such  In a mixture  Subsequent service life relevant for that use: no  Remarks:  ERC 6a: Fertilizer sector uses map: FE\_IS\_001\_v1  ERC 6b: Fertilizer sector uses map: FE\_IS\_002\_v1 |
| IW-8: Industrial use as water treatment chemical | **Environmental release category (ERC):**  ERC 4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)  ERC 6b: Use of reactive processing aid at industrial site (no inclusion into or onto article)  **Process category (PROC):**  PROC 5: Mixing or blending in batch processes  **Product Category used:**  PC 36: Water softeners  PC 37: Water treatment chemicals  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates | Substance supplied to that use:  As such  In a mixture  Subsequent service life relevant for that use: no |
| IW-9: Industrial end use as catalyst | **Environmental release category (ERC):**  ERC 4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)  ERC 6a: Use of intermediate  ERC 6b: Use of reactive processing aid at industrial site (no inclusion into or onto article)  **Process category (PROC):**  PROC 1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  PROC 2: Chemical production or refinery in closed  continuous process with occasional controlled exposure or processes with equivalent containment conditions  PROC 3: Manufacture or formulation in the chemical industry in closed batch processes  with occasional controlled exposure or processes with equivalent containment condition  PROC 4: Chemical production where opportunity for exposure arises  **Product Category used:**  PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates | Substance supplied to that use:  As such  In a mixture  Subsequent service life relevant for that use: no |

**Table 14. Uses by professional workers**

| **Identifiers** | **Use descriptors** | **Other information** |
| --- | --- | --- |
| PW-10: Professional end-use as processing aid | **Environmental release category (ERC):**  ERC 8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)  ERC 8b: Widespread use of reactive processing aid (no inclusion into or onto article, indoor)  ERC 9a: Widespread use of functional fluid (indoor)  **Process category (PROC):**  PROC 1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  PROC 2: Chemical production or refinery in closed  continuous process with occasional controlled exposure or processes with equivalent containment conditions  PROC 3: Manufacture or formulation in the chemical industry in closed batch processes  with occasional controlled exposure or processes with equivalent containment condition  PROC 4: Chemical production where opportunity for exposure arises  PROC 5: Mixing or blending in batch processes  PROC 14: Tabletting, compression, extrusion, pelletisation, granulation  **Product Category used:**  PC 8: Biocidal products (e.g. disinfectants, pest control)  PC 12: Fertilisers  PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents  PC 21: Laboratory chemicals  PC 27: Plant protection products  PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates | Substance supplied to that use:  As such  In a mixture  Subsequent service life relevant for that use: no |
| PW-11: Professional end-use as fertilizer | **Environmental release category (ERC):**  ERC 8b: Widespread use of reactive processing aid (no inclusion into or onto article, indoor)  ERC 8e: Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)  **Process category (PROC):**  PROC 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions  PROC 5: Mixing or blending in batch processes  PROC 13: Treatment of articles by dipping and pouring  PROC 19: Manual activities involving hand contact  PROC 8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities  PROC 8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities  PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  PROC 11: Non industrial spraying  PROC 15: Use as laboratory reagent  **Product Category used:**  PC 12: Fertilisers  **Technical function of the substance during formulation:**  Fertilisers | Substance supplied to that use:  In a mixture  As such  Subsequent service life relevant for that use: no  Remark: Fertilizer sector uses map: FE\_PW\_001\_v1 |
| PW-12: Sampling, loading, filling, transfer, dumping, bagging of substance (charging/discharching) at non-dedicated facilities. Professional setting. | **Environmental release category (ERC):**  ERC 8b: Widespread use of reactive processing aid (no inclusion into or onto article, indoor)  **Process category (PROC):**  PROC 8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities  **Product Category used:**  PC 12: Fertilisers  PC 18: Ink and toners  PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents  PC 21: Laboratory chemicals  PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates  Fertilisers | Substance supplied to that use:  As such  In a mixture  Subsequent service life relevant for that use: no |
| PW-13: Sampling, loading, filling, transfer, dumping, bagging of substance (charging/discharching) at dedicated facilities. Professional setting. | **Environmental release category (ERC):**  ERC 8b: Widespread use of reactive processing aid (no inclusion into or onto article, indoor)  **Process category (PROC):**  PROC 8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities  **Product Category used:**  PC 12: Fertilisers  PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents  PC 21: Laboratory chemicals  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates  Fertilisers | Substance supplied to that use:  In a mixture  As such  Subsequent service life relevant for that use: no |
| PW-14: Transfer of substance into small containers (dedicated filling line, including weighing). Professional setting. | **Environmental release category (ERC):**  ERC 8b: Widespread use of reactive processing aid (no inclusion into or onto article, indoor)  **Process category (PROC):**  PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  **Product Category used:**  PC 12: Fertilisers  PC 18: Ink and toners  PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents  PC 21: Laboratory chemicals  PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates  Fertilisers | Substance supplied to that use:  In a mixture  As such  Subsequent service life relevant for that use: no |
| PW-15: Professional end-use of ink and toners | **Environmental release category (ERC):**  ERC 8d: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)  **Process category (PROC):**  PROC 3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  PROC 11: Non industrial spraying  PROC 26: Handling of solid inorganic substances at ambient temperature  **Product Category used:**  PC 18: Ink and toners  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates | Substance supplied to that use:  As such  In a mixture  Subsequent service life relevant for that use: no |
| PW-16: Professional end-use of antiicing agent | **Environmental release category (ERC):**  ERC 8e: Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)  **Process category (PROC):**  PROC 5: Mixing or blending in batch processes  PROC 8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities  **Product Category used:**  PC 4: Anti-freeze and de-icing products  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates | Substance supplied to that use:  As such  In a mixture  Subsequent service life relevant for that use: no |

**Table 15. Consumer uses**

| **Identifiers** | **Use descriptors** | **Other information** |
| --- | --- | --- |
| C-17: Consumer use of ink and toners containing magnesium nitrate | **Environmental release category (ERC):**  ERC 8d: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)  **Product Category used:**  PC 18: Ink and toners  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates | Substance supplied to that use:  In a mixture  Subsequent service life relevant for that use: no |
| C-18: Consumer use of magnesium nitrate in anti-freeze and de-icing products | **Environmental release category (ERC):**  ERC 8d: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)  **Product Category used:**  PC 4: Anti-freeze and de-icing products  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates | Substance supplied to that use:  In a mixture  Subsequent service life relevant for that use: no |
| C-19: Consumer use of magnesium nitrate in fertilizers | **Environmental release category (ERC):**  ERC 8b: Widespread use of reactive processing aid (no inclusion into or onto article, indoor)  ERC 8e: Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)  **Product Category used:**  PC 12: Fertilisers  **Technical function of the substance during formulation:**  Fertilisers | Substance supplied to that use:  As such  In a mixture  Remark: Fertilizer Sector Uses Map FE\_C\_001\_v1  Subsequent service life relevant for that use: no |
| C-20: Consumer use of textile dyes containing magnesium nitrate | **Environmental release category (ERC):**  ERC 8d: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)  **Product Category used:**  PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids  **Technical function of the substance during formulation:**  Stabilisers  Laboratory chemicals  Intermediates | Substance supplied to that use:  In a mixture  Subsequent service life relevant for that use: no |