

CHEMICAL SAFETY REPORT

Update 5: Submitted September 2021

(Replaces Update 4: April 2020, Update 3: June 2016, Update 2: Feb 2016, Update 1: May 2013, original: 2010)

Substance Name: Molybdenum trioxide

EC Number: 215-204-7

CAS Number: 1313-27-5

Registrant's Identity: Joint CSR submitted by the lead registrant (Climax Molybdenum B.V.) on behalf of all members of the joint submission MOCONJS-PUREMOTRIOX. Document prepared by the IMO A REACH Molybdenum Consortium (MoCon).

See also the *2014 OECD Highly Soluble Molybdenum Salts Mutual Acceptance of Data (MAD) dataset (containing primarily sodium molybdate data used for read-across in many instances in this CSR)*, which is attached to this CSR. The afore-mentioned MAD status data is:

- 1) likewise contained in the relevant individual sections within this CSR.
- 2) also downloadable from the OECD website at:

https://hpvchemicals.oecd.org/UI/SIDS_Details.aspx?id=5c88d62f-4401-4cad-b521-521a4bd710f3

Several supporting documents/reports are to be considered together with the CSR. They are referenced in the CSR and attached in the technical registration dossier in IUCLID section 13.2:

- MoCon read-across concept/justification for human health hazards
- MoCon read-across concept/justification for environmental hazards
- Speciation of molybdenum compounds in water: UV spectra (in support of the above)
- DNEL derivation report
- Background document – Environmental Effects Assessments (*updated July 2021*)
- Background document – Environmental Fate properties (*updated May 2021*)
- Background document – Regional / ambient monitoring data (water, soil, sediment)
- OECD SIDS Initial Assessment Profile (SIAP), containing the dataset with MAD status
- List of assessors (list of professionals that contributed to the registration dossier).

- Indirect exposure assessment for molybdenum trioxide
- Methodology paper describing the methodology applied in the occupational exposure scenarios for the substance

The “**Exposure Scenarios**”, i.e. chapters 9+10 of Part B of the CSR are also provided as a separate document that is attached to IUCLID section 13.1.

2. MANUFACTURE AND USES

Table 5. Quantities (in tonnes/year)

Year	Tonnages (tonnes per year)
-	For confidentiality reasons the data on manufactured or imported quantities per registrant are not provided in this joint CSR , but are instead provided by each individual registrant of this substance in their technical registration dossier (section 3.2 in IUCLID).

2.1. Manufacture

Table 6. Manufacture

	Manufacture
M-1	<p>Manufacture of Molybdenum trioxide <u>Further description of manufacturing process:</u></p> <p>Pure Oxide, Calcined (POC):</p> <p>EINECS 215-204-7/CAS 1313-27-5, is a pure form of molybdic oxide (MoO₃) prepared by thermally decomposing an ammoniated molybdate to volatilize water and all of the ammonia. POC feed stock is an ammoniated molybdate. The desired quality of the POC will dictate feed stock selection. POC is produced by the complete thermal decomposition of ammoniated molybdate:</p> $(NH_4)_2Mo_2O_7 \rightarrow 2MoO_3 + 2NH_3\uparrow + H_2O\uparrow$ <p>Thermal decomposition into POC begins at 375 °C. Industrial calcining temperatures are typically in the range of 400-550 °C and will be dependent on the production volume and the size of the calciner. This calcining process is run continuously. A calciner is a piece of equipment similar to a dryer that is operated at a temperature that will not only volatilize any contained water to dry the material, but will also volatilize additional components. In this case, the temperature is high enough to volatilize or evolve ammonia. The gas stream containing the ammonia is cooled and treated to recover the ammonia. The calciner product, POC, is stored in a storage bin until packed into drums or bulk bags.</p> <p>Pressure Leached Molybdenum Oxide (PLO):</p> <p>Another route for producing molybdenum trioxide is via the oxidation of molybdenum disulfide concentrate (EC-number 215-263-9) at high temperature and pressure in an autoclave process. The resulting oxide is filtered and prepared for packaging and transportation.</p> <p>Sublimed molybdenum trioxide (POS):</p> <p>For the sake of completeness, included below is a description of the manufacturing process for sublimed molybdenum trioxide (POS), but this niche manufacturing process does not take place within the EU.</p> <p>POS is a pure form of roasted molybdenite concentrate (RMC, EINECS/CAS#: 289-178-0 / 86089-09-0) prepared by the purification of RMC by sublimation. POS feed stock is typically RMC. The required quality of the POS will dictate feed stock selection. POS is produced by the concentrating of MoO₃ by sublimation:</p> $MoO_3 (s) \rightarrow MoO_3 (g) \rightarrow MoO_3 (s)$ <p>Sublimation is a thermal process in which RMC undergoes a phase transition directly from a solid to</p>

	<p>gaseous form, or vapor, without passing through a liquid phase. Sublimation of RMC to POS begins to occur at approximately 750 °C. Industrial sublimation temperatures are dependent on the production volume and the size of the sublimation furnace. The pure form of MoO₃ is achieved not by the rejection of impurities as much as by the concentrating of MoO₃ by sublimation.</p> <p>Sublimation is completed in a continuous process in a furnace. RMC is fed into the furnace and heated. An ambient air draft is applied to the furnace which pulls air across the surface of the feed towards exhaust ports. This carrier air picks up the MoO₃ vapor as sublimation occurs and conveys it out the exhaust ports in the off-gas. The off-gas is subjected to adiabatic cooling which results in the deposition of POS, i.e., the MoO₃ vapor undergoes a phase transition from a gaseous MoO₃ form to a solid POS form. The off-gas now containing the POS goes through a bag house which filters out the POS from the off-gas. Within the baghouse, heat-resistant cloth bags are situated through which the off-gas passes through and the captured POS is removed from a rotary valve located at the bottom of the baghouse. Unrecovered POS and impurity-containing gangue becomes a tail stream from the furnace. The tail stream is used as a by-product for production of other molybdenum-containing metallurgical products such as ferromolybdenum or the tail stream can be re-blended into molybdenum disulfide roasting processes. Following removal from the baghouse, the POS is stored in a storage bin. From the storage bin, POS is packed into drums as undensified POS. Depending on downstream user requirements, the POS can also be densified with water, dried, stored again in a bulk bin and packed into drums or bulk bags as densified POS. The densified POS has the same chemical composition characteristics as un-densified POS.</p> <p>Contributing activity/technique for the environment : - Manufacture of Molybdenum trioxide (ERC1)</p> <p>Contributing activity/technique for the workers : - Mixing and filtering (PROC 3) - Transfer of the substance (PROC 26) - Closed process (PROC 2; PROC 3) - Sieving and screening (PROC 2) - Handling and packaging of solid substance (PROC 26) - Wet cleaning (PROC28) - Removal of dust (PROC28)</p> <p>use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant Tonnage of substance for that use: tonnes/year Related assessment: use assessed in a joint CSR</p>
M-2	<p>Manufacture of Molybdenum trioxide-containing catalysts <u>Further description of manufacturing process:</u></p> <p>Molybdenum trioxide in final catalysts is manufactured directly into the catalysts from other molybdenum starting materials. Molybdenum trioxide containing catalysts are mainly manufactured for the petrochemical industry.</p> <p>Contributing activity/technique for the environment : - Manufacture of Molybdenum trioxide-containing catalysts (ERC1)</p> <p>Contributing activity/technique for the workers : - Closed reaction process (PROC 1; PROC 3) - Semi-closed reaction process (wet process) (PROC 3; PROC 4) - Semi-closed reaction process (dry process) (PROC 3; PROC 4) - Drying and sieving in closed process (PROC 1; PROC 2; PROC 3) - Sieving and screening (PROC 4) - Tabletting in closed process (PROC 2; PROC 3; PROC 14) - Tabletting in semi-closed process (PROC 4; PROC 14) - Transfer of the solid substance (PROC 4) - Hot temperature process (PROC 2) - Handling and packaging of solid substance (PROC 8b; PROC 9; PROC 26)</p>

	<ul style="list-style-type: none"> - Wet cleaning (PROC28) - Removal of dust (PROC28) <p>use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant Tonnage of substance for that use: tonnes/year Related assessment: use assessed in a joint CSR</p>
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2.2. Identified uses

Table 7. Formulation

	Formulation
F-1	<p>Formulation into catalysts <u>Further description of the use:</u></p> <p>Molybdenum trioxide containing catalysts are mainly manufactured for the petro-chemical industry.</p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Formulation into catalysts (ERC3) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Raw material handling (PROC 3; PROC 4; PROC 9; PROC 26) - Impregnation (catalyst production) (PROC 3; PROC 26) - Tabletting (PROC 3; PROC 4; PROC 14) - Drying (PROC 2; PROC 4) - Quality Control (PROC 15; PROC 26) - Wet cleaning (PROC28) - Removal of dust (PROC28) <p>Product Category formulated: PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents; PC 0: Other: UCN P15500 Catalysts</p> <p>Technical function of the substance: catalyst use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant Tonnage of substance for that use: tonnes/year Substance supplied to that use: as such; in a mixture Related assessment: use assessed in a joint CSR</p>

Table 8. Uses at industrial sites

	Uses at industrial sites
IW-1	<p>Catalyst manufacturing & use, inc. regeneration & recycling, due to use as a raw material <u>Further description of the use:</u></p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Catalyst manufacturing & use, inc. regeneration & recycling, due to use as a raw material (ERC6a) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Handling of solid substance (PROC 9; PROC 26) - Handling of solid substance (closed process) (PROC 3; PROC 9; PROC 26) - Tabletting (PROC 14) - Hot temperature process (PROC 1; PROC 2) - Mixing, blending (PROC 4; PROC 5) - Conversion (PROC 3) - Sulfiding (PROC 1; PROC 2; PROC 26) - Quality control (PROC 15) - Wet cleaning (PROC28) - Removal of dust (PROC28)

	<p>Product Category used: PC 2: Adsorbents; PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents; PC 0: Other: UCN P15500 Catalysts</p> <p>Sector of end use: SU 8: Manufacture of bulk, large scale chemicals (including petroleum products); SU 9: Manufacture of fine chemicals</p> <p>Technical function of the substance: catalyst; intermediate (precursor); processing aid</p> <p>use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for that use: tonnes/year</p> <p>Substance supplied to that use: in a mixture</p> <p>Subsequent service life relevant for that use: no</p> <p>Related assessment: use assessed in a joint CSR</p>
IW-2	<p>Intermediate use of Molybdenum trioxide for reduction to Molybdenum dioxide</p> <p><u>Further description of the use:</u></p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Intermediate use of Molybdenum trioxide for reduction to Molybdenum dioxide (ERC6a) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Raw material handling (PROC 26) - Mixing, blending (PROC 4; PROC 5) - Hot temperature process (PROC 1; PROC 27a) - Wet cleaning (PROC28) - Removal of dust (PROC28) <p>Product Category used: PC 0: Other:</p> <p>Sector of end use: SU 14: Manufacture of basic metals, including alloys</p> <p>Technical function of the substance: intermediate (precursor)</p> <p>use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for that use: tonnes/year</p> <p>Substance supplied to that use: as such</p> <p>Subsequent service life relevant for that use: no</p> <p>Related assessment: use assessed in a joint CSR</p>
IW-3	<p>Intermediate use of Molybdenum trioxide in manufacturing of frits and enamels</p> <p><u>Further description of the use:</u></p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Intermediate use of Molybdenum trioxide in manufacturing of frits and enamels (ERC6a) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Raw material handling (PROC 9; PROC 26) - Quality control (PROC 15) - Closed reaction process (PROC 1; PROC 2; PROC 3) - Wet cleaning (PROC28) - Removal of dust (PROC28) <p>Product Category used: PC 9a: Coatings and paints, thinners, paint removes; PC 9b: Fillers, putties, plasters, modelling clay; PC 14: Metal surface treatment products; PC 15: Non-metal-surface treatment products</p> <p>Sector of end use: SU 13: Manufacture of other non-metallic mineral products, e.g. plasters, cement</p> <p>Technical function of the substance: intermediate (precursor)</p> <p>use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for that use: tonnes/year</p> <p>Substance supplied to that use: as such</p> <p>Subsequent service life relevant for that use: no</p> <p>Related assessment: use assessed in a joint CSR</p>
IW-4	<p>Intermediate use of Molybdenum trioxide in manufacturing of liquid industrial paints</p> <p><u>Further description of the use:</u></p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Intermediate use of Molybdenum trioxide in manufacturing of liquid industrial paints (ERC6a)

	<p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Raw material handling (PROC 9; PROC 26) - Mixing, blending (PROC 4; PROC 5) - Quality control (PROC 15) - Closed reaction process (PROC 1; PROC 2; PROC 3) - Wet cleaning (PROC28) - Removal of dust (PROC28) <p>Product Category used: PC 9a: Coatings and paints, thinners, paint removes Technical function of the substance: intermediate (precursor) use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant Tonnage of substance for that use: tonnes/year Substance supplied to that use: as such Subsequent service life relevant for that use: no Related assessment: use assessed in a joint CSR</p>
IW-5	<p>Intermediate use of Molybdenum trioxide in manufacturing of pigments <u>Further description of the use:</u> Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Intermediate use of Molybdenum trioxide in manufacturing of pigments (ERC6a) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Raw material handling (PROC 9; PROC 26) - Quality control (PROC 15) - Closed reaction process (PROC 3) - Semi-closed reaction process (PROC 4) - Hot temperature process (PROC 22) - Wet cleaning (PROC28) - Removal of dust (PROC28) <p>Product Category used: PC 9a: Coatings and paints, thinners, paint removes; PC 9b: Fillers, putties, plasters, modelling clay Sector of end use: SU 9: Manufacture of fine chemicals; SU 13: Manufacture of other non-metallic mineral products, e.g. plasters, cement Technical function of the substance: intermediate (precursor) use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant Tonnage of substance for that use: tonnes/year Substance supplied to that use: as such Subsequent service life relevant for that use: no Related assessment: use assessed in a joint CSR</p>
IW-6	<p>Intermediate use of Molybdenum trioxide in manufacturing of water treatment chemicals <u>Further description of the use:</u> Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Intermediate use of Molybdenum trioxide in manufacturing of water treatment chemicals (ERC6a) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Raw material handling (PROC 26) - Mixing, blending (PROC 5) - Wet cleaning (PROC28) - Removal of dust (PROC28) <p>Product Category used: PC 37: Water treatment chemicals Sector of end use: SU 23: Electricity, steam, gas water supply and sewage treatment Technical function of the substance: intermediate (precursor) use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant Tonnage of substance for that use: tonnes/year Substance supplied to that use: as such Subsequent service life relevant for that use: no Related assessment: use assessed in a joint CSR</p>

<p>IW-7</p>	<p>Intermediate use of Molybdenum trioxide in manufacturing lubricant additives, lubricants and greases <u>Further description of the use:</u> Contributing activity/technique for the environment : - Intermediate use of Molybdenum trioxide in manufacturing lubricant additives, lubricants and greases (ERC6a) Contributing activity/technique for the workers : - Raw material handling (PROC 26) - Quality control (PROC 15) - Reaction process (PROC 1) - Semi-closed reaction process (PROC 4) - Wet cleaning (PROC28) - Removal of dust (PROC28) Product Category used: PC 24: Lubricants, greases, release products; PC 25: Metal working fluids Sector of end use: SU 9: Manufacture of fine chemicals Technical function of the substance: intermediate (precursor) use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant Tonnage of substance for that use: tonnes/year Substance supplied to that use: as such Subsequent service life relevant for that use: no Related assessment: use assessed in a joint CSR</p>
<p>IW-8</p>	<p>Intermediate use of Molybdenum trioxide in steel & alloy production <u>Further description of the use:</u> This pure form of molybdenum trioxide (CAS No. 1313-275) is a very minor, non-routinely used way of adding the molybdenum alloying element into the steel making process, because it is a higher cost input material than other ways of adding molybdenum to alloy steels. Examples of types of Mo-containing steels include stainless, high speed tool steels, special steels. Alloy: low, super, Al/Ti. The best estimate of number of sites is around 10. Contributing activity/technique for the environment : - Intermediate use of Molybdenum trioxide in steel and alloy production (ERC6a) Contributing activity/technique for the workers : - Raw material handling (PROC 26) - Mixing, blending (PROC 5) - Closed reaction process (PROC 1; PROC 3) - Hot temperature process (PROC 4; PROC 22; PROC 23) - Wet cleaning (PROC28) - Removal of dust (PROC28) Product Category used: PC 7: Base metals and alloys Sector of end use: SU 14: Manufacture of basic metals, including alloys Technical function of the substance: intermediate (precursor) use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant Tonnage of substance for that use: tonnes/year Substance supplied to that use: as such Subsequent service life relevant for that use: no Related assessment: use assessed in a joint CSR</p>
<p>IW-9</p>	<p>Intermediate use of Molybdenum trioxide in steel & alloys powder production <u>Further description of the use:</u> Mainly for super-alloys powder production which is a very niche activity by a small number of EU plants.</p>

	<p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Intermediate use of Molybdenum trioxide in steel & alloys powder production (ERC6a) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Raw material handling (PROC 9; PROC 26) - Closed reaction process (PROC 1; PROC 3) - Production of metal powders (hot process) (PROC 27a) - Production of metal powders (wet process) (PROC 27b) - Wet cleaning (PROC28) - Removal of dust (PROC28) <p>Product Category used: PC 7: Base metals and alloys Sector of end use: SU 14: Manufacture of basic metals, including alloys Technical function of the substance: intermediate (precursor) use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant Tonnage of substance for that use: tonnes/year Substance supplied to that use: as such Subsequent service life relevant for that use: no Related assessment: use assessed in a joint CSR</p>
IW-10	<p>Intermediate use of Molybdenum trioxide in the manufacturing of metal surface treatment substances <u>Further description of the use:</u></p> <p>Molybdenum trioxide transforms to molybdate whose corrosion inhibition properties are used in metal surface treatment substances. Metal surface treatment is as a protector/passivator, i.e. where you want an adherent hydrophobic film, to inhibit corrosion (e.g. during metal storage)</p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Intermediate use of Molybdenum trioxide in the manufacturing of metal surface treatment substances (ERC6a) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Raw material handling (PROC 26) - Semi-closed reaction process (PROC 4) - Wet cleaning (PROC28) - Removal of dust (PROC28) <p>Product Category used: PC 14: Metal surface treatment products Sector of end use: SU 8: Manufacture of bulk, large scale chemicals (including petroleum products); SU 9: Manufacture of fine chemicals Technical function of the substance: intermediate (precursor) use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant Tonnage of substance for that use: tonnes/year Substance supplied to that use: in a mixture Subsequent service life relevant for that use: no Related assessment: use assessed in a joint CSR</p>
IW-11	<p>Intermediate use of Molybdenum trioxide in the manufacturing of Mo chemicals (method 1) <u>Further description of the use:</u></p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Intermediate use of Molybdenum trioxide in the manufacturing of Mo chemicals (method 1) (ERC6a) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Raw material handling (PROC 26) - Closed reaction process (PROC 2; PROC 3) - Wet cleaning (PROC28) - Removal of dust (PROC28) <p>Product Category used: PC 20: Products such as ph-regulators, flocculants, precipitants,</p>

	<p>neutralisation agents; PC 0: Other: Sector of end use: SU 8: Manufacture of bulk, large scale chemicals (including petroleum products); SU 9: Manufacture of fine chemicals Technical function of the substance: intermediate (precursor) use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant Tonnage of substance for that use: tonnes/year Substance supplied to that use: in a mixture Subsequent service life relevant for that use: no Related assessment: use assessed in a joint CSR</p>
IW-12	<p>Intermediate use of Molybdenum trioxide in the manufacturing of Mo chemicals (method 2) <u>Further description of the use:</u> Contributing activity/technique for the environment : - Intermediate use of Molybdenum trioxide in the manufacturing of Mo chemicals (method 2) (ERC6a) Contributing activity/technique for the workers : - Raw material handling (PROC 9; PROC 26) - Closed reaction process (PROC 2; PROC 3) - Semi-closed reaction process (PROC 4) - Hot temperature process (PROC 4; PROC 22) - Wet cleaning (PROC28) - Removal of dust (PROC28) Product Category used: PC 0: Other: Sector of end use: SU 9: Manufacture of fine chemicals Technical function of the substance: intermediate (precursor) use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant Tonnage of substance for that use: tonnes/year Substance supplied to that use: as such Subsequent service life relevant for that use: no Related assessment: use assessed in a joint CSR</p>
IW-13	<p>Intermediate use of Molybdenum trioxide to manufacturing molybdenum metal <u>Further description of the use:</u> Contributing activity/technique for the environment : - Intermediate use of Molybdenum trioxide to manufacturing molybdenum metal (ERC6a) Contributing activity/technique for the workers : - Raw material handling (PROC 26) - Hot temperature process (PROC 1) - Production of metal powders (hot process) (PROC 27a) - Wet cleaning (PROC28) - Removal of dust (PROC28) Product Category used: PC 7: Base metals and alloys Sector of end use: SU 14: Manufacture of basic metals, including alloys; SU 16: Manufacture of computer, electronic and optical products, electrical equipment Technical function of the substance: intermediate (precursor) use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant Tonnage of substance for that use: tonnes/year Substance supplied to that use: as such Subsequent service life relevant for that use: no Related assessment: use assessed in a joint CSR</p>
IW-14	<p>Intermediate use of Molybdenum trioxide for reduction to Molybdenum disulfide <u>Further description of the use:</u> Contributing activity/technique for the environment : - Intermediate use of Molybdenum trioxide for reduction to Molybdenum disulfide (ERC6a)</p>

	<p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Raw material handling (PROC 9; PROC 26) - Catalyst loading/unloading (PROC 26) - Sulfiding (PROC 1; PROC 3) - Use of catalyst (PROC 1; PROC 2) - Wet cleaning (PROC28) - Removal of dust (PROC28) <p>Product Category used: PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents; PC 21: Laboratory chemicals; PC 0: Other: Catalyst</p> <p>Sector of end use: SU 8: Manufacture of bulk, large scale chemicals (including petroleum products); SU 9: Manufacture of fine chemicals</p> <p>Technical function of the substance: intermediate (precursor)</p> <p>use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for that use: tonnes/year</p> <p>Substance supplied to that use: in a mixture</p> <p>Subsequent service life relevant for that use: no</p> <p>Related assessment: use assessed in a joint CSR</p>
IW-15	<p>Use of Molybdenum trioxide in catalysts, e.g. Formaldehyde catalysts</p> <p><u>Further description of the use:</u></p> <p>Molybdenum trioxide is the active catalytic substance.</p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Use of Molybdenum trioxide in catalysts, e.g. Formaldehyde catalysts (ERC6b) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Raw material handling (PROC 8b; PROC 26) - Catalyst loading/unloading (PROC 8b; PROC 26) - Catalyst use (PROC 1) - Wet cleaning (PROC28) - Removal of dust (PROC28) <p>Product Category used: PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents; PC 0: Other: UCN P15500 Catalysts</p> <p>Sector of end use: SU 8: Manufacture of bulk, large scale chemicals (including petroleum products); SU 9: Manufacture of fine chemicals</p> <p>Technical function of the substance: catalyst; processing aid</p> <p>use registered according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for that use: tonnes/year</p> <p>Substance supplied to that use: in a mixture</p> <p>Subsequent service life relevant for that use: no</p> <p>Related assessment: use assessed in a joint CSR</p>