DATASMART LCI Package

What's New in DATASMART 2020?

Published October 2020

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Details on 2020 Update

The 2020 DATASMART update includes 11 new processes, 75 updated processes[1], and 11 corrected processes. This includes new molybdenum data from the International Molybdenum Association. Electricity mixes for Canadian provinces and territories, the Canadian country average, U.S. eGRID, U.S. state and the U.S. country average were also updated to incorporate the most recently published data. Two new waste scenarios for general waste and packaging waste were created based on the most recent publications from the U.S. Environmental Protection Agency. The LTS Method was updated with the latest ReCiPe 2016 version 1.04 method. Finally, corrected water flows were corrected for Chinese textile processing system level data.

For more details, see below and in the full process list at *DATASMART 2020 Full Process List.xlsx*, available upon request by emailing support@ltsexperts.com.

New molybdenum data

Three molybdenum processes from the International Molybdenum Association (IMOA) have been newly added. Molybdenum is used in a wide range of applications and sectors, including construction, oil and gas, transportation, agriculture and medicine. With the goal of providing LCA practitioners and researchers with high quality cradle-to-gate data to use in LCA studies, IMOA contributed the datasets indicated below. They relate to the production of forms of molybdenum used specifically in metallurgical applications e.g. production of engineering, stainless and specialty steels, where the technical function ranges across increasing strength, hardness/hardenability, and enhancing resistance to corrosion and wear:

- Ferromolybdenum (FeMo) in chip form (input to steels)/GLO S

- Molybdenum Tech Oxide Briquette (input to steels)/GLO S

- Molybdenum Tech Oxide powder (input to steels & feedstock to Mo chemicals production)/ GLO S

The form/s used depends on the manufacturing process of the downstream user.

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[1] Processes updated directly. Does not include processes with updated documentation, processes moved to a new category or processes that have updated processes as an input (e.g. if the electricity production mix was updated, the high/medium/low voltage electricity processes are not counted as updated).

Updated Canadian Electricity

The average Canadian electricity mix and the 13 Canadian provinces and territories electricity mixes were updated, based on data from the Government of Canada in 2020.

- Alberta
- Ontario
- British Columbia
- Saskatchewan
- Manitoba
- Yukon
- Northwest Territories
- Nunavut
- Quebec
- New Brunswick
- Newfoundland and Labrador
- Nova Scotia
- Prince Edward Island
- Canada

Updated US electricity

The following U.S. eGrid and all 50 U.S. State and District of Columbia electricity mix processes and the U.S. average were updated, based on 2018 data from the U.S. Environmental Protection Agency (EPA), published in 2020.

- Alaska Systems Coordinating Council (ASCC)
- Florida Reliability Coordinating Council (FRCC)
- Hawaiian Islands Coordinating Council (HICC)
- Midwest Reliability Organization (MRO)
- Northeast Power Coordinating Council (NPCC)
- Reliability First Corporation (RFC)
- SERC Reliability Corporation (SERC)
- Southwest Power Pool (SPP)
- Texas Regional Entity (TRE)
- Western Electricity Coordinating Council (WECC)

New Waste Scenarios

Two new waste scenarios were added, based on 2017 data from the U.S. Environmental Protection Agency (EPA), published in 2020.

- Waste scenario 2017/US U
- Packaging waste scenario 2017/US U

Updated LTS 2019 Method

The *LTS 2019 Method* was updated based on the latest ReCiPe 2016 version 1.04 method. The LTS 2019 method also includes Cumulative Energy Demand version 1.11, and Climate Change from the IPCC 2013 GWP 100a (100 year) version 1.03.

Table 1: Selected impact categories and corresponding methods and units of measure for the LTS 2019 v1.01 Method.

Impact Category	Method	Units
Human Health	ReCiPe 2016 Endpoint (H) V1.04	DALY
Ecosystems	ReCiPe 2016 Endpoint (H) V1.04	Species.yr
Resources	ReCiPe 2016 Endpoint (H) V1.04	$
Cumulative Energy Demand	CED V1.11	MJ
Climate Change	IPCC 2013 GWP 100a V1.03	kg CO_2 eq.
Water Use	ReCiPe 2016 Midpoint (H) V1.04	m3

Corrected water flows for textile processing data

The hydro and nuclear water flows for 14 Chinese textile processing system level processes were corrected, reflecting the change ecoinvent made between version 2.2 and 3 and LTS made in DATASMART unit level data in 2019.

- Cutting and sewing/CN S
- Fabric combined dyeing/CN S
- Fabric mercerizing/CN S
- Fabric pretreatment and finishing, no dyeing/CN S
- Fabric pretreatment, dyeing and finishing, combined process/CN S
- Fabric pretreatment/CN S
- Fabric wetting/ bleaching/CN S
- Knitting, circular, synthetic yarn/CN S
- Spinning fiber, synthetic/CN S
- Staple fiber production, PET/CN S
- Weaving, synthetic yarn/CN S
- Yarn production, synthetic, air textured (ATY)/CN S
- Yarn production, synthetic, drawn textured (DTY)/CN S
- Yarn production, synthetic, partially oriented (POY)/CN S