**Table S1** HR classification of toxic or adverse effects of chemicals.

|  |  |  |
| --- | --- | --- |
| **Hazard rating** | **Description of effects/Hazard category** | **Example of chemicals** |
| 1 | * No known adverse health effect * ACGIH A5 carcinogens * Not classified as toxic or harmful | Sodium chloride, butane, butyl acetate, calcium carbonate |
| 2 | * Reversible effects to the skin, eyes or mucous membranes, not sever enough to cause serious health impairment * ACGIH A4 carcinogens * Skin sensitizer and skin irritants | Acetone, butane, acetic acid (10% concentration), barium salts, aluminum dust |
| 3 | * Possible human or animal carcinogens or mutagens, but for which data is inadequate * ACGIH A3 carcinogens * IARC Group 2B * Corrosive (pH 3 to 5 or 9 to 11), respiratory sensitizers, harmful chemicals | Toluene, xylene, ammonia, butanol, acetaldehyde, acetic anhydride, aniline, antimony |
| 4 | * Probable human carcinogens or mutagens based on animal studies * ACGIH A2 carcinogens * NTP Group B * IARC Group 2A * Very corrosive (pH 0 to 2 or 11.5 to 14) * Toxic chemicals | Formaldehyde, cadmium, methylene chloride, thylene oxide, acrylonitrile, 1,3-butadiene |
| 5 | * Known human carcinogens, mutagens or teratogens * ACGIH A1 carcinogens * NTP Group A * IARC Group 1 * Very toxic chemicals | Benzene, benzaidine, lead, arsenic, beryllium, bromine, vinyl chloride, mercury, crystalline silica |

**Table S2** Exposure Rating

|  |  |
| --- | --- |
| E/OEL | Exposure Rating (ER) |
| <0.1 | 1 |
| 0.1 to <0.5 | 2 |
| 0.5 to <1.0 | 3 |
| 1.0 to <2.0 | 4 |
| ≥ 2.0 | 5 |

*E = weekly exposure; OEL = Occupational Exposure Limit*

**Table S3** Classificationof Risk Rating\*

|  |  |
| --- | --- |
| Risk Rating | Ranking |
| 1 | Negligible |
| 2 | Low |
| 3 | Medium |
| 4 | High |
| 5 | Very high |

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