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|  | | ISO FORM 4 |
| **NEW WORK ITEM PROPOSAL (NP)** |
| **DATE OF CIRCULATION:** Click here to enter a date. | | **CLOSING DATE FOR VOTING:** Click here to enter a date. |
| **PROPOSER:**  ISO member body:  SAC  Committee, liaison or other:  Click or tap here to enter text. | | **REFERENCE NUMBER:** Click or tap here to enter text.  **WITHIN EXISTING COMMITTEE**  Document Number: Click or tap here to enter text.  Committee Secretariat: Click or tap here to enter text.  **PROPOSAL FOR A NEW PC** |
| A proposal for a new work item within the scope of an existing committee shall be submitted to the secretariat of that committee.  A proposal for a new project committee shall be submitted to the Central Secretariat, which will process the proposal in accordance with ISO/IEC Directives, Part 1,[Clause 2.3](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents" \l "section-isodocuments-top).  Guidelines for proposing and justifying new work items or new fields of technical activity (Project Committee) are given in ISO/IEC Directives, Part 1, [Annex C](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top).  **IMPORTANT NOTE:** Proposals without adequate justification and supporting information risk rejection or referral to the originator. | | |
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| **PROPOSAL**  (to be completed by the proposer, following discussion with committee leadership if appropriate) | | |
| English title | | |
| Guidelines for the treatment of per- and polyfluoroalkyl substances in reclaimed water | | |
| French title | | |
| Click or tap here to enter text.  (Please see ISO/IEC Directives, Part 1, [Annex C](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top), Clause C.4.2).  In case of amendment, revision or a new part of an existing document, please include the reference number and current title | | |
| **SCOPE**  (Please see ISO/IEC Directives, Part 1, [Annex C](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top), Clause C.4.3) | | |
| This document provides guidance on the treatment of per- and polyfluoroalkyl substances (PFAS) in reclaimed water.  This document outlines general principles, PFAS control objectives and technology classification, treatment technology specifications, monitoring analysis and reporting, technology verification and evaluation, and management requirements for the treatment of PFAS in reclaimed water.  This document is applicable to the treatment of per-and polyfluoroalkyl substances in reclaimed water. | | |
| **PURPOSE AND JUSTIFICATION**  (Please see ISO/IEC Directives, Part 1, [Annex C](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top) and additional guidance on justification statements in the brochure [Guidance on New Work](https://www.iso.org/publication/PUB100438.html)) | | |
| Water is essential for human life sustainability, industry and agriculture advancement, and ecological balance maintainability. However, the global water supply is under tremendous pressure.  According to the United Nations World Water Development Report 2025, global freshwater abstraction increased by 14% between 2000 and 2021, equivalent to an average annual growth of approximately 0.7%. Furthermore, 25 countries—home to a quarter of the global population—face "extremely high" water stress annually, with nearly 4 billion people (accounting for half the world's population) experiencing severe water scarcity for at least part of each year.  In order to save the problem of water scarcity, many countries and regions are focusing on the development of non-traditional water sources such as rainwater, seawater and reclaimed water. Compared with other non-traditional water sources, reclaimed water has the characteristics of low cost and stable water quality and quantity, and has become an internationally recognized "second urban water source". The utilization of reclaimed water is a win-win way to solve the problem of water shortage and water environment pollution, its application scenarios cover various fields such as ecological water replenishment, industrial cooling, agricultural irrigation and municipal miscellaneous uses. Israel, Australia, United States California and other water-scarce countries and regions have taken it as an important strategic measure to solve the problem of water shortage. Reclaimed water is an important underpinning of the UN Development Goals 3 (good health and well-being), 6 (clean water and sanitation), 9 (industry, innovation and infrastructure) and 11 (sustainable cities and communities).  However, in the process of utilization, reclaimed water will face potential risks from emerging contaminants. The substances that cause these risks mainly include biological risk substances and chemical risk substances. Perfluorinated and polyfluoroalkyl substances (PFAS) refer to a broad class of over 4000 manufactured organic chemicals containing perfluorinated carbon moieties, a class of emerging contaminants frequently detected in source water and drinking water, and different concentrations of PFAS have been detected in surface water, groundwater, sewage treatment plant effluent and reclaimed water in various countries and regions around the world, with concentration values ranging from 0.1 ng/L to 1000 mg/L. Due to their persistence, resistance to degradation, and various biological toxicities, PFAS may ultimately return to the human body through the water cycle, posing risks to human health. Therefore, treating PFAS in reclaimed water to mitigate risks has become a critical imperative. Yet traditional water treatment technologies exhibit limited effectiveness against PFAS, necessitating a comprehensive framework covering "target setting–technology classification–monitoring and verification–accountability management" to upgrade existing systems—a focal point for global innovation and governance.  Currently, most of the PFAS-related standards and regulations issued worldwide focus on the concentration limits of PFAS in drinking water and water bodies, as well as methods for measuring PFAS in water, such as ISO 21675 and EN 17892. There is no ISO standard specifically addressing the treatment of PFAS. To provide effective guidance for the treatment and risk management of per- and polyfluoroalkyl substances (PFAS) in reclaimed water and standardize full-process requirements spanning from treatment technology selection to operational management, this document is established. This document outlines general principles, PFAS control objectives and technology classification, treatment technology specifications, monitoring analysis and reporting, technology verification and evaluation, and management requirements for the treatment of PFAS in reclaimed water, thereby delivering systematic technical guidelines for efficient PFAS treatment and risk control of reclaimed water. (Please use this field or attach an annex) | | |
| **PROPOSED PROJECT LEADER** (name and email address) | | |
| Dr Hui Huang(China), envhuang@nju.edu.cn | | |
| **PROPOSER** (including contact information of the proposer’s representative) | | |
| Dr. XIAO Han  Director General, Department of Standards Innovative Management, SAMR/SAC;  sac\_82261017@126.com | | |
|  | **The proposer confirms that this proposal has been drafted in compliance with ISO/IEC Directives, Part 1, Annex C** | |
| **PROJECT MANAGEMENT**  Preferred document   |  |  | | --- | --- | |  | International Standard | |  | Technical Specification | |  | Publicly Available Specification\* |   \* While a formal NP ballot is not required (no eForm04), the NP form may provide useful information for the committee P-members to consider when deciding to initiate a Publicly Available Specification.  Proposed Standard Development Track (SDT – to be discussed by the proposer with the committee manager or ISO/CS)  18 months  24 months  36 months  Proposed date for first meeting: 2024-12-10  Proposed TARGET dates for key milestones:   * Circulation of 1st Working Draft (if any) to experts: 2025-09-01 * Committee Draft consultation (if any): 2026-02-01 * DIS submission\*: 2027-07-01 * Publication\*: 2028-07-01   \* Target Dates for DIS submission and Publication should be set a few weeks ahead of the limit dates automatically determined when selecting the SDT.  It is proposed that this DOCUMENT will be developed by:   |  |  | | --- | --- | |  | An existing Working Group, add title Click or tap here to enter text. | |  | A new Working Group Click or tap here to enter text.  *(Note that the establishment of a new Working Group requires approval by the parent committee by a resolution)* | |  | The TC/SC directly | |  | To be determined | |  | This proposal relates to a new ISO document | |  |  | |  | This proposal relates to the adoption, as an active project, of an item currently registered as a Preliminary Work Item | |  | This proposal relates to the re-establishment of a cancelled project as an active project | |  | Other: Click or tap here to enter text. |   Additional guidance on project management is available [here](https://connect.iso.org/display/standards/Project+management). | | |
| **PREPARATORY WORK**   |  |  | | --- | --- | |  | A draft is attached | |  | An existing document serving as the initial basis is attached | |  | An outline is attached | |  | Note: at minimum an outline of the proposed document is required |   The proposer is prepared to undertake the preparatory work required:  Yes  No  If a draft is attached to this proposal:  Please select from one of the following options:   |  |  | | --- | --- | |  | The draft document can be registered at Preparatory stage (WD – stage 20.00) | |  | The draft document can be registered at Committee stage (CD – stage 30.00) | |  | The draft document can be registered at enquiry stage (DIS – stage 40.00) | |  |  | |  | If the attached document is copyrighted or includes copyrighted content, the proposer confirms that copyright permission has been granted for ISO to use this content in compliance with [clause 2.13](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top) of ISO/IEC Directives, Part 1 (see also the [Declaration on copyright](https://www.iso.org/declaration-for-participants-in-iso-activities.html)). | | | |
| **RELATION OF THE PROPOSAL TO EXISTING INTERNATIONAL STANDARDS AND ON-GOING STANDARDIZATION WORK**  To the best of your knowledge, has this or a similar proposal been submitted to another standards development organization or to another ISO committee?  Yes  No  If Yes, please specify which one(s) Click or tap here to enter text.  The proposer has checked whether the proposed scope of this new project overlaps with the scope of any existing ISO project  If an overlap or the potential for overlap is identified, the proposer and the leaders of the existing project have discussed on:   1. modification/restriction of the scope of the proposal to avoid overlapping, 2. potential modification/restriction of the scope of the existing project to avoid overlapping.   If agreement with parties responsible for existing project(s) has not been reached, please explain why the proposal should be approved Click or tap here to enter text.  Has a proposal on this subject already been submitted within an existing committee and rejected? If so, what were the reasons for rejection? Click or tap here to enter text.  This project may require possible joint/parallel work with  IEC (please specify the committee) Click or tap here to enter text.  CEN (please specify the committee) Click or tap here to enter text.  Other (please specify) Click or tap here to enter text. | | |
| **Select any UN Sustainable Development Goals (SDGs) that this proposed project would support** (information about SDGs, is available at [www.iso.org/SDGs](http://www.iso.org/SDGs)) and explain how the proposed document relates to the identified SDG(s) and their associated targets.  GOAL 1: No Poverty  Click or tap here to enter text.  GOAL 2: Zero Hunger  Click or tap here to enter text.  GOAL 3: Good Health and Well-being  By guiding the treatment of PFAS in reclaimed water, this standard reduces potential health risks.  GOAL 4: Quality Education  Click or tap here to enter text.  GOAL 5: Gender Equality  Click or tap here to enter text.  GOAL 6: Clean Water and Sanitation  By providing guidance for PFAS treatment, this standard improves reclaimed water quality, ensuring its safe reuse and minimizing water pollution.  GOAL 7: Affordable and Clean Energy  Click or tap here to enter text.  GOAL 8: Decent Work and Economic Growth  Click or tap here to enter text.  GOAL 9: Industry, Innovation and Infrastructure  By standardizing advanced PFAS treatment, this standard promotes innovation in water treatment and upgrades infrastructure for water reclamation plants.  GOAL 10: Reduced Inequality  Click or tap here to enter text.  GOAL 11: Sustainable Cities and Communities  By ensuring the safety of reclaimed water, this standard enhances the environmental quality and resilience of urban water bodies, supporting community well-being and sustainable urban water resource management.  GOAL 12: Responsible Consumption and Production  Click or tap here to enter text.  GOAL 13: Climate Action  Click or tap here to enter text.  GOAL 14: Life Below Water  Click or tap here to enter text.  GOAL 15: Life on Land  Click or tap here to enter text.  GOAL 16: Peace, Justice and strong institutions  Click or tap here to enter text.  GOAL 17: Partnerships for the goals  Click or tap here to enter text.  No SDG concerned | | |
| **Identification and description of relevant affected stakeholder categories**  (Please see [ISO CONNECT](https://connect.iso.org/display/standards/Stakeholders+and+liaisons))   |  |  | | --- | --- | |  | Benefits/Impacts/Examples | | Industry and commerce – large industry | Promote the popularization of efficient and safe water reuse technology and the progress of the industry. | | Industry and commerce – SMEs | Increase the benefits of water reuse in enterprises. Enhance the competitiveness of enterprises.  Promote sustainable development. | | Government | Improve the water quality of reclaimed water.  Build resilient cities. | | Consumers | Provide high-quality treated water for different reuse scenarios.  Improve the health level of residents. | | Labour | Improve labor productivity, increase social efficiency. | | Academic and research bodies | Promote the research and development of reclaimed water treatment technology and equipment.  Promote the technological progress of the industry. | | Standards application businesses | Provide regulatory guidance for the treatment of PFAS from worldwide reclaimed water.  Improve social productivity. | | Non-governmental organizations | Popularize the concept of safe water, water saving and circular economy  Promote the harmonious coexistence of human and nature. | | Other (please specify) | Click or tap here to enter text. | |  |  | | | |
| **Listing of countries where the subject of the proposal is important for their national commercial interests** (Please see ISO/IEC Directives, Part 1, [Annex C](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top), Clause C.4.8)  China, United States, Israel, Singapore, Australia, Nigeria, Canada, Japan, France, Portugal, Korea, Spain, etc. | | |
| **Listing of external international organizations or internal parties (other ISO and/or IEC committees) to be engaged in this work** (Please see ISO/IEC Directives, part 1, [Annex C](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top), Clause C.4.9)  Click or tap here to enter text. | | |
| **Listing of relevant documents (such as standards and regulations) at international, regional and national level** (Please see ISO/IEC Directives, Part 1, [Annex C](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top), Clause C.4.6)  [1] ISO 21675:2019 Water quality - Determination of perfluoroalkyl and polyfluoroalkyl substances (PFAS) in water — Method using solid phase extraction and liquid chromatography-tandem mass spectrometry (LC-MS/MS)  [2] ISO 4789:2023 Guidelines for wastewater treatment and reuse in thermal power plants  [3] ISO 9784 Guidelines for biological filtration of secondary effluent for water reuse  [4] ISO/FDIS 12370 Guidelines for treatment and reuse of fermentation-based pharmaceutical wastewater  [5] EN 17892:2024 Water quality - Determination of selected per- and polyfluoroalkyl substances in drinking water - Method using liquid chromatography/tandem-mass spectrometry (LC-MS/MS)  Water for Prosperity and Peace——2024 United Nations World Water Development Report  [6] Stockholm Convention on Persistent Organic Pollutants (POPs), REVISED IN 2017  [7] Xiaoya Fang, Lili Jin, Xiangzhou Sun, Hui Huang\*, Yanru Wang, Hongqiang Ren. A data-driven analysis to discover research hotspots and trends of technologies for PFAS removal[J]. Environmental Research, 2024, 251, 118678  [8] Yuanji Shi, Hongxin Mu, Jiaqian You, Chenglong Han, Huazai Cheng, Jinfeng Wang, Haidong Hu\*, Hongqiang Ren\*. Confined water-encapsulated activated carbon for capturing short-chain perfluoroalkyl and polyfluoroalkyl substances from drinking water[J]. Proceedings of the National Academy of Sciences of the United States of America, 2023, 120, e2219179120  [9] EPA (2012), *Emerging Contaminants –* Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA), Environmental Protection Agency, Washington DC  [10]. EPA(2023), Treatment of PFAS and other Emerging Contaminants, Environmental Protection Agency, Washington DC  [11] EPA(2020), Treatment of Emerging Contaminates and Sustainable Chemistry), Environmental Protection Agency, Washington DC  [12] National Health and Medical Research Council, *Guidance on Per and Polyfluoroalkyl substances (PFAS) in Recreational Water*, Australia, 2019 | | |
| **ADDITIONAL INFORMATION**  **Maintenance Agencies (MAs) and Registration Authorities (RAs)**   |  |  | | --- | --- | |  | This proposal requires the designation of a maintenance agency. If so, please identify the potential candidate: | |  | Click or tap here to enter text. | |  | This proposal requires the designation of a registration authority. If so, please identify the potential candidate | |  | Click or tap here to enter text. |   NOTE: Selection and appointment of the MA or RA are subject to the procedure outlined in ISO/IEC Directives, Part 1, [Annex G](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top) and [Annex H](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top).  **Known patented Items** (Please see ISO/IEC Directives, Part 1, [Clause 2.14](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top))  Yes  No  If Yes, provide full information as an annex  **Is this proposal for an ISO management System Standard (MSS)?**  Yes  No  Note: If yes, this proposal must have an accompanying justification study. Please see the Consolidated Supplement to the ISO/IEC Directives, Part 1, [Annex SL](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top) or [Annex JG](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top) | | |