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Data Article

Data on corrosive water in the sources and distribution network of drinking water in north of Iran

Javad Alimoradi^a, Dariush Naghipour^a, Hossein Kamani^b,
Ghorban Asgari^c, Mohammad Naimi-Joubani^a,
Seyed Davoud Ashrafi^{a,d,*}

^a School of Health, Guilan University of Medical Sciences, Rasht, Iran

^b Health Promotion Research Center, Zahedan University of Medical Sciences, Zahedan, Iran

^c Social Determinants of Health Research Center (SDHRC), Department of Environmental Health Engineering, Hamadan University of Medical Sciences, Hamadan, Iran

^d Research Center of Health and Environment, Guilan University of Medical Sciences, Rasht, Iran

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ABSTRACT

This study aimed to determine the parameters of scaling and corrosion potential of drinking water in sources and distribution networks of water supply in two cities of north of Iran. The results of Amlash water samples analysis in winter revealed that the average values of Langelier, Ryznar, Aggressive, Pockorius, and Larson- skold indices was -1.31 , 9.73 , 11.5 , 9.74 and 0.24 , respectively, but, in summer they were -1.51 , 10.71 , 11.36 , 10.72 and 0.25 , respectively. For Rudsar, the results of water samples analysis in winter illustrated that the average values of Langelier, Ryznar, Aggressive, Pockorius, and Larson was -1.12 , 9.69 , 11.33 , 9.19 and 0.16 , respectively, while, in summer they were -1.05 , 10.04 , 11.92 , 10.18 and 0.19 , respectively. The beneficial of this data is showing the clear image of drinking water quality and can be useful for preventing the economical and safety problems relating to corrosion and scaling of drinking water.

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* Corresponding author at: School of Health, Guilan University of Medical Sciences, Rasht, Iran.
E-mail address: d_ashrafi@yahoo.com (S.D. Ashrafi).

Specifications Table

Subject area	Environmental Sciences
More specific subject area	Drinking water chemistry
Type of data	Table and figure
How data was acquired	Measurements of all parameters was done according to standard methods based on Standard Methods for the Examination of Water and Wastewater. Hardness parameters, alkalinity, calcium, bicarbonate and chloride were measured by titration method. Digital pH meter (Metrohm) was applied for pH analyzing. Sulfate was measured using Hach DR5000 spectrophotometer. Temperature was determined by digital thermometer. TDS was measured by scaling method.
Data format	Raw, analyzed
Experimental factors	The data were obtained monthly in both cold and warm season, winter and summer, and the pH and temperature measured in the place other samples after taking as standard method were stored in a dark place at 4 °C temperature and transferred to laboratory under 3 hours.
Experimental features	All the above mentioned parameters were acquired and the levels of all indices were calculated.
Data source location	Guilan Province, North of Iran, Iran (Fig. 1).
Data accessibility	All data are available within this article.

Value of the data

- The data shown here can be helpful for water and wastewater companies, water resources and treatment management, and for who related with water quality engineering and management.
- The materials and ingredient of pipes, fittings and valves in distribution networks solved due to corrosive water and make some health, aesthetic and economic problems. So that, the determination of corrosion and scale potential of drinking water using reliable methods is useful for preventing of these problems.
- The zoning of the Langelier, Ryznar, Aggressive, Pockorius, and Larson indices was done to make a clear picture of the corrosion and scaling potential in the water resources and distribution network in these study area.

1. Data

The subject of safe drinking water is important topic in the world [1–5]. The data of this paper present the information about the saturation situation of water supply quality for both season of winter and summer. Five stability indices, Langelier, Ryznar, Aggressive, Pockorius, and Larson were calculated using especial equations which summarized in Table 1. In the winter for Amlash county the mean values of pH, temperature, TDS, HCO_3^- , ALK, SO_4^- , Cl^- and Ca^{2+} were 7.56, 11.43 °C, 156.64, 170.91, 138.38, 23.68, 17.46 and 50.69 mg/L, respectively. But, in the summer season the mean values for those parameters were 7.65, 18.18 °C, 209.97, 173.52, 141.91, 28.28, 16.71 and 34.51 mg/L, respectively (Table 2). In the other case, Rudsar county, in the winter the mean values of pH, temperature, TDS, HCO_3^- , ALK, SO_4^- , Cl^- and Ca^{2+} were 7.31, 11.04 °C, 248.2, 213.39, 174.34, 21.68, 13.52 and 91.97 mg/L, respectively. But, in the summer season the mean values for those parameters were 7.91,

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