

Manganese ilo Dān in Idaak

Ta ko Riwia ro Rej Aikuj Jella

Manganese ej juon mineral eo ej pād ilo deka, dān in iumin lal, im dān ko ilo jikin ko jej maroñ in tobar.

Jidik in manganese ej aurok im kajur ñan armij. Enbwinim ej aikuj jidik manganese bwe en eman ejmour eo an, ako ñe elap emaroñ in lukkun kakure, elaptata ñan ajiri.

Manganese ilo dān ko am emaroñ in bar kōmman bwe en wōr kolar ilo nuknuk ko kwoj kwali im kōmman bwe en kolar būrawun-kilmej ako kolar kilmej ilo jikin kepojjak, tutu, karreo, ako jikin ormij. Manganese emaroñ in kōmman bwe dān ko am en nana am kalimjok, et bwin, ako lemek e.



Etke manganese ejjam letok būrabō!ōm?

Ekatak ko ilo lalin rej letok elaplok melele kin wawen an manganese kōba ippān kein jerbal in kōmman dān in idaak im an jelot ejmour an armij. Ekatak ko kio rej kwalōk:

- Epāāke manganese loñ in 0.1 mg/L emōj an kōba ippān an laplok kauwōtata ñan an jab eman ejmour ñan ajiri ro iumin 5 aer yiiō.
- Manganese ej pād ilo pipe in dān, im kōmman bwe dān in idaak ko ewōr manganese ilo joñan ko relaplok jān ko rej pād kio ej dān in jibāñ.
- An kalok manganese ilo pipe emaroñ in bar bōk aen ko im remaroñ in bar pād ilo dān, ainwot lead ako arsenic. Ñe ej oktak joñan eman in dān, an laplok joñan men kein emōj laajrak in emaroñ in kōmman bwe ren duojlak ilo an laplok.
- Jeban maroñ in kejatdikdik kin lemen ako wawen kalimjok dān in daak ñan jella ke ewōr joñan manganese ko rellap im ej kōmman inepata ñan ejmour an armij kinke jejjab maroñ in loe ako kile ñe ej jako lak ilo dān.

Manganese ej ke kōmman inebata ñan ajiri ro?

Aet, ajiri ro rej pād ilo joñan yiiō eo im ej kamijak ñe ej lap an epāake manganese. Ñe elap epāake manganese ilo ien aer eddeklak emaroñ in kōmman bwe en wōr būrabo!ōm ilo ekatak im mwil. Bar epāake ilo jidik wōt ien ñan elaplok manganese ilo dān in idaak (0.1 mg/L) ilo ien ko ej ajiri wōt emōj an walok ñan ka!ap!ok an wōr nañinmej in an eddeklak komalij (Schullehner et al (2020)).



Ilo an manganese kōba ippān bota in milik an ajiri ñan jibāñ ikijen eddeklak ilo ejmour, ñe elap jān joñan emaroñ in jelot ejmour. Manganese ej juon "goldilocks compound." Ñe elap ako ñe edik emaroñ in jab eman – kwoj aikuj i joñan eo eman. Ñe joñan manganese ilo dān in idaak ej laplok jān 0.3 mg/L, ajiri ro iumin 6 allōñ rej aikuj in bojrak ilo aer kōjerbale dān ko ako bota in milik eo ej kere ippān dān eo.

Ta eo kwoj maroñ in kōmmane

- Ñe dān in idaak eo am ej pād ilo loñ in 0.05mg/L, tobar jikin jermal e dān ko, im kajitok bwe ren likit kein karreo dān eo ñan jōlok manganese ilo kein jermal ko.
- Ñe teej in dān in idaak ko rej pād ilo ako loñ in joñan jibāñ ikijen ejmour 0.3 mg/L, kōjerbale bar juon jikin dān, ainwot bato in dān, ñan kere ippān bota in milik an ninnin im ajiri jidik ro. Rutto ro rej idaak dān ko im joñan manganese ko lowaan elaplok jān joñan eo emōj rōjañ ñan ejmour rej pād ilo kauwōtata ko rediklak jān ninnin im ajiri.
- Dān ko rej boel emaroñ in kōmman bwe en laplok manganese ilowaan kinke ej jōlok wōt dān, im ejjab rōjañ in kōmmane.
- Manganese ejjab bidodo an deloñ ilo kil. Ejelok inepata ikijen ejmour jān tutu, karreo, buriij ñi, ako kwalkwol nuknuk ilo dān ko elap joñan manganese ilowaan.
- Ñe kwoj kōjerbale dān ko elap manganese ilowaan im ewōr am inepata ikijen ejmour eo am, kōnnaan ippān jikin takto eo am.

Rōjañ ñan Kein Kōjerbale Dān

Washington State Department of Health Office of Drinking Water (ODW, Rā eo an Opiij eo an Dān in Idaak) ej ukote naan in rōjañ ko ñan jikin jermal in lale dān in loblej im ewōr manganese ie ñan joñan dān. Ilo iumin eloñ yiiō, manganese ilo dān in idaak ekar !ōmṅak wōt in juon inepata ko, im rej kōmman bwe en jako lak kolar ako oktak. Botaab, ekatak ko ilo kio rej kwalōk an jab eman ejmour jān wōt an lap epāake joñan manganese ilo dān in idaak. Emōj ad kōjerbale melele kaal kein ñan kakaal wawen tōl ñan jermal in dān in idaak.

- Aolep kein lale dān ippān joñan manganese ko relaplok jān 0.05 mg/L rej aikuj in likit im kōjerbale uno in jōlok manganese ilo jikin dān eo.
- Kein jermal ko rej kōjerbale uno in jōlok manganese rej aikuj in kajeon in tobar juon kottopar in diklak ako joñan wōt 0.02 mg/L ilo jikin deloñ e ajej ko.

- Aolep kein jermal ko elaplok manganese ako rej kōjerbale uno in jōlok manganese ej aikuj in jimwe manganese kein teej ko aer.
- Kein jermal e dān ko im ewōr joñan ajeje manganese ilo 0.3 mg/L ako elaplok rej aikuj in lelak kōjjeļā ñan riwia ro aer.

Manganese Joñan Inepata ikijen Dān in Idaak

Ilo 2004, Environmental Protection Agency (EPA, Doulol in Kōjbarok Belaakid) emōj an karōk rōjañ ñan ejmour ikijen manganese ilo dān in idaak ñan kōjbarok armij (0.3 mg/L) im joñan eo ediklak (0.05 mg/L) ñan kabōjrak an kolar im nana bwiin ako lemen ilo dān eo. Jekjek kein jimor rej aer māke kelet, im ej an juon māke kein jermal in dān ko bebe ñan teej ñan an kōjerbale uno in jōlok manganese ilo dān in idaak. Tebōl in ilal ej kwalōk rōjañ ikijen ejmour im jekjek ko emōj karōk ñan manganese jān eloñ jikin jermal ko.

Joñan Manganese	Rōjañ / Joñan Makutkut
0.02 mg/L	ODW (2023) ej rōjañ jikin jermal in dān ñan debij joñan in ako ediklak ilo jikin deļoñ ñan jikin ajeje dān eo elikin uno.
0.05 mg/L	ODW (2023) ej rōjañ uno ñan jōlok manganese ilo joñan ko relaplok jān 0.05 mg/L. EPA Secondary Maximum Contaminant Level (SCML, Joñan Etoon eo Elaptata) pedped ion ta ej walok tokelik.
0.08 mg/L	World Health Organization (Doulol in Ejmour an Lalin) (2021) joñan aurok im tōl pedped ion ejmour ñan ajiri ro rej kōjerbale bato. Im bar kōjbarok joñan oran armij.
0.1 mg/L	Minnesota Department of Health (Rā eo an Ejmour) (2018) joñan dān eo ej rōjañ ñan an lelak ñan ajiri ilo allōñ ko 12 jinion in mour. Ej juon rōjañ eo pedped ion-ejmour ñan kōjbarok ajiri jān būrabōļōm ikijen ekatak im mwil.
0.12 mg/L	Health Canada (Ejmour Canada) (2019) joñan eo elaptata im eman (MAC) ñan idaak dān. Emōj karōk ñan kōjbarok ajiri, im bar kōjbarok eloñ armij.
0.3 mg/L	EPA Joñan eo Emōj Rōjañ ñan Ejmour (2004): <ul style="list-style-type: none"> • Jermal ñan kōjerbale iumin ien ekadu (10 raan) ñan ajiri ro redik jān 6 aer allōñ. • Jermal ñan kōjerbale ilo joñan mour ñan eloñ armij. ODW ej rōjañ bwe kein jermal in dān ko rej kwalōk kōjjeļā ñan loblej im ro rej kōjerbale ñe joñan manganese ilo dān in idaak ej lōñ in joñan eo.
1.0 mg/L	EPA Joñan Rōjañ ikijen Ejmour (2004) ñan epāake ilo jidik-wōt ien (10 raan) ñan ajiri ro 6 aer allōñ im ruttolak im ñan rutto.

Ñe kwar jab jella joñan manganese ilo dān in idaak ko am, tobar jikin jermal e dān.
 Ñe ewōr am kajitok ako inepata kin joñan eman in dān in idaak ko am, tobar jikin jermal e dān.

Ñan elaplok melele, loelak [DOH Office of Drinking Water](http://www.doh.wa.gov/community-and-environment/drinking-water/office-drinking-water)
 (www.doh.wa.gov/community-and-environment/drinking-water/office-drinking-water)
 ako tobar kij ilo:

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