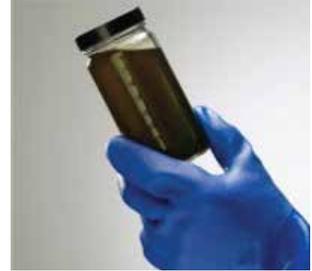


## CRS<sup>®</sup> Technical Description

CRS<sup>®</sup> (Chemical Reducing Solution) is an iron-based reagent that facilitates biogeochemical *in situ* chemical reduction (ISCR) of halogenated contaminants such as chlorinated ethenes and ethanes. CRS is a pH neutral, liquid iron solution that is easily mixed with 3-D Microemulsion<sup>®</sup> Factory Emulsified before injection into a contaminated aquifer. CRS provides a soluble, food-grade source of ferrous iron (Fe<sup>2+</sup>), designed to precipitate as reduced iron sulfides, oxides, and/or hydroxides. These Fe<sup>2+</sup> minerals are capable of destroying chlorinated solvents via chemical reduction pathways, thus improving the efficiency of the overall reductive dechlorination process by providing multiple pathways for contaminant degradation in groundwater.



Example of CRS

For a list of treatable contaminants with the use of CRS, view the [Range of Treatable Contaminants Guide](#).

### Chemical Composition

- Water 7732-18-5
- Ferrous Gluconate 299-29-6

### Properties

- Appearance – Dark green to black
- Odor – Odorless
- pH 6.0 to 8.0
- Density – Approximately 1.0 grams per cubic centimeter (0.9 to 1.1 g/cc)
- Solubility – Miscible
- Vapor Pressure – None
- Non-hazardous

### Storage and Handling Guidelines

#### Storage

Store in original tightly closed container

Store away from incompatible materials

Recommended storage containers: plastic-lined steel, plastic, glass, aluminum, stainless steel, or reinforced fiberglass

Store in a cool, dry, well-ventilated place

Keep away from extreme heat and strong oxidizing agents

#### Handling

Avoid prolonged exposure

Observe good industrial hygiene practices

Wear appropriate personal protective equipment

Avoid contact with eyes, skin, and clothing

Avoid breathing spray mist

Use with adequate ventilation

# CRS® Technical Description

## Applications

- Permanent injection wells
- Direct-push injection points

Application instructions for this product are contained in the CRS Application Instructions.

## Health and Safety

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200. Observe good industrial hygiene practices. Wash hands after handling. Store away from incompatible materials. Dispose of waste and residues in accordance with local authority requirements. Please review the [CRS PLUS Material Safety Data Sheet](#) for additional storage, usage, and handling requirements.