# Product Data Sheet

Product Name: Reactive Red 180
Cat. No.: GF03703

## Chemical Properties

| | | | |
|---|---|---|---|
| Cas. No. | 98114-32-0 | | |
| Formula | $C_{29}H_{24}N_3NaO_{17}S_5$ | M.Wt | 869.83 |
| Solubility | | Storage | Store at RT |
| General tips | For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months. | | |
| Shipping Condition | Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request. | | |
| Structure | | | |



## Background

Reactive Red 180 is a vinyl sulfone dye that can be used in antibody engineering to induce antibody maturation and produce cross-reactive antibodies[1]. Reactive Red 180 is a high-performance reactive dye suitable for dyeing cellulose fibers with high fixation rate, making it an ideal choice for the textile printing and dyeing industry[2]. Reactive Red 180 contains water-soluble groups such as sulfonic acid groups, which ensure good water solubility and dyeing performance[3]. Reactive Red 180 is a monoazo textile dye that can be adsorbed on single-walled carbon nanotubes (SWCNTs) through electrostatic interactions to achieve residual dye separation[4, 5]. Reactive Red 180 can be

degraded by $H_2O_2$ solar-assisted photodegradation process ($H_2O_2$/sunlight)[6]. A decolorizing strain *Citrobacter sp*. CK3 was isolated from activated sludge in a textile mill and showed significant decolorization ability for Reactive Red 180[7].

References:

[1]Schüchner S, Andorfer P, Mudrak I, et al. Anti-RAINBOW dye-specific antibodies as universal tools for the visualization of prestained protein molecular weight markers in Western blot analysis[J]. Scientific Reports, 2016, 6(1): 31363.
[2]Yang J, Yang X, Wu C, et al. High fixation and low energy consumption in reactive dyeing of cotton through combining the dye molecule design and environment-friendly dyeing technique[J]. Cellulose, 2024, 31(6): 3907-3919.
[3]Epolito W J, Lee Y H, Bottomley L A, et al. Characterization of the textile anthraquinone dye Reactive Blue 4[J]. Dyes and Pigments, 2005, 67(1): 35-46.
[4]Kuriechen S K, Murugesan S, Raj S P, et al. Visible light assisted photocatalytic mineralization of Reactive Red 180 using colloidal TiO2 and oxone[J]. Chemical Engineering Journal, 2011, 174(2-3): 530-538.
[5]Orlette M. Synthesis and supporting of carbon dots onto titania, carbonized chitosan, silica spheres, hollow and solid carbon spheres for the removal of methyl orange from wastewater[D]. University of the Witwatersrand, Johannesburg (South Africa), 2021.
[6]Raja R, Chakravarthi M H, Venis A R, et al. A study on decolourisation of Reactive Red-180 dye and dye effluent containing Reactive Red-180 using H2O2 solar assisted photodegradation process[J]. International Journal of Research and Analytical Reviews, 2019, 6(2): 818-825.
[7]Wang H, Su J Q, Zheng X W, et al. Bacterial decolorization and degradation of the reactive dye Reactive Red 180 by Citrobacter sp. CK3[J]. International Biodeterioration & Biodegradation, 2009, 63(4): 395-399.