

Carboxymethylcellulose Sodium(CAS No. 9004-32-4)

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Carboxymethylcellulose Sodium C₂H₄O₃.xNa.xUnspecified (cas 9004-32-4) Molecular Structure

9004-32-4 Structure

Identification and Related Records

【Name】

Carboxymethylcellulose Sodium

【CAS Registry number】

9004-32-4

【Synonyms】

CMC

Cellulose Gum

CMC sodium salt

Sodium carboxymethyl cellulose

Cellulose carboxymethyl ether sodium salt

Carboxymethylcellulose

【EINECS(EC#)】

900-432-4

【Molecular Formula】

C₂H₄O₃.xNa.xUnspecified (Products with the same molecular formula)

【Molecular Weight】

264.204

【Inchi】

InChI=1/C6H12O6.C2H4O2.Na.H/c7-1-3(9)5(11)6(12)4(10)2-8;1-2(3)4;;/h1,3-6,8-12H,2H2;1H3,(H,3,4);;/rC6H12O6.C2H4O2.HNa/c7-1-3(9)5(11)6(12)4(10)2-8;1-2(3)4;/h1,3-6,8-12H,2H2;1H3,(H,3,4);1H

【Canonical SMILES】

CC(=O)O.C(C(C(C(C(C=O)O)O)O)O)O.[Na]

【MOL File】

9004-32-4.mol

Chemical and Physical Properties

【Appearance】

solid

【Density】

1,6 g/cm³

【Melting Point】

300°C

【Water】

soluble

【Solubilities】

Soluble in water

【Stability】

Stable. Incompatible with strong oxidizing agents.

【Storage temp】

Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. No special precautions indicated. Store protected from moisture.

【Computed Properties】

Molecular Weight:263.19761 [g/mol]

Molecular Formula:C₈H₁₆NaO₈

H-Bond Donor:6

H-Bond Acceptor:8

Rotatable Bond Count:5

Tautomer Count:7

Exact Mass:263.074287

MonoIsotopic Mass:263.074287

Topological Polar Surface Area:156

Heavy Atom Count:17

Formal Charge:0

Complexity:169

Isotope Atom Count:0

Defined Atom Stereocenter Count:0

Undefined Atom Stereocenter Count:4

Defined Bond Stereocenter Count:0

Undefined Bond Stereocenter Count:0

Covalently-Bonded Unit Count:3

Safety and Handling

【Risk Statements】

R40

【Safety Statements】

S24/25

【Safety】

Risk Statements: 40?

R40:Limited evidence of a carcinogenic effect.

Safety Statements: 24/25

S24/25: Avoid contact with skin and eyes

WGK Germany: 1

RTECS: FJ5950000

F: 3

【Specification】

?Carboxymethyl cellulose (CAS NO.9004-32-4)?is also called?Cellulose carboxymethyl ether sodium salt ; and CMC sodium salt . It?is stable and?incompatible with strong oxidizing agents.?It is odorless and?tasteless, and is easily dispersed in water to become transparent colloid. It?is not soluble in ethanol , acetone and ether and other organic solvents.

Use and Manufacturing

【Usage】

Substance is used in drilling muds, in detergents as a soil-suspending agent, in resin emulsion paints, adhesives, printing inks, textile sizes, as protective colloid in general.

Biomedical Effects and Toxicity

【Pharmacological Action】

- Forms to which substances are incorporated to improve the delivery and the effectiveness of drugs. Drug carriers are used in drug-delivery systems such as the controlled-release technology to prolong in vivo drug actions, decrease drug metabolism, and reduce drug toxicity. Carriers are also used in designs to increase the effectiveness of drug delivery to the target sites of pharmacological actions. Liposomes, albumin microspheres, soluble synthetic polymers, DNA complexes, protein-drug conjugates, and carrier erythrocytes among others have been employed as biodegradable drug carriers.

- Agents that produce a soft formed stool, and relax and loosen the bowels, typically used over a protracted period, to relieve CONSTIPATION.