



US011891496B2

(12) **United States Patent**
Hoyer et al.

(10) **Patent No.: US 11,891,496 B2**
(45) **Date of Patent: Feb. 6, 2024**

(54) **CYANOACRYLATE COMPOSITION WITH HAZARDLESS STABILIZER**

(71) Applicant: **H.B. Fuller Company**, St. Paul, MN (US)

(72) Inventors: **Lars P. Hoyer**, Seelze (DE); **Wolfgang Wittwer**, Pirmasens (DE)

(73) Assignee: **H.B. Fuller Company**, St. Paul, MN (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 34 days.

(21) Appl. No.: **17/653,578**

(22) Filed: **Mar. 4, 2022**

(65) **Prior Publication Data**

US 2022/0282063 A1 Sep. 8, 2022

Related U.S. Application Data

(60) Provisional application No. 63/157,289, filed on Mar. 5, 2021.

(51) **Int. Cl.**

C08F 2/46 (2006.01)
C08F 2/50 (2006.01)
C08G 61/04 (2006.01)
C08K 5/134 (2006.01)
C08F 120/36 (2006.01)

(52) **U.S. Cl.**

CPC **C08K 5/134** (2013.01); **C08F 120/36** (2013.01)

(58) **Field of Classification Search**

CPC . C07C 253/32; C09D 4/00; C09J 4/00; C08K 5/134; C08F 122/32; C08F 120/36; C08F 222/322

USPC 522/2, 1
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,182,823 A 1/1980 Schoenberg
4,460,759 A 7/1984 Robins
5,530,037 A 6/1996 McDonnell et al.
6,607,632 B1 8/2003 McDonnell et al.
8,753,684 B2 6/2014 Pfluecker et al.
10,799,464 B2 10/2020 Anderson et al.
2007/0078207 A1* 4/2007 Jonn C09J 4/00
524/556
2008/0131381 A1 6/2008 Chaudhuri et al.
2018/0207080 A1 7/2018 Loch et al.
2020/0239618 A1 7/2020 Barnes et al.
2021/0251861 A1 8/2021 Athalin et al.

FOREIGN PATENT DOCUMENTS

DE 102007019043 A1 10/2008
WO WO2010060513 A2 9/2010
WO WO2020085335 A1 4/2020
WO WO2020187773 A1 9/2020

OTHER PUBLICATIONS

Doudin et al., New genre of antioxidants from renewable natural resources: Synthesis and characterization of rosemary plant-derived antioxidants and their performance in polyolefins, 2016, Polymer Degradation and stability, 130, 126-134 (Year: 2016).*
Merck, "OxyneX® ST Liquid", Brochure 2017.
Merck, "130217 OxyneX® ST Liquid" Technical Data Sheet 2017.
Alexander Kielbassa, Merck, "Up-to-Date Protection Against Light—From UV-IR", PM-PFS Cosmetics Functional, ppt. Jan. 2015.

* cited by examiner

Primary Examiner — Jessica Whiteley

(74) Attorney, Agent, or Firm — Kristi Halloran

(57) **ABSTRACT**

The present invention relates to a curable cyanoacrylate composition comprising (i) at least one cyanoacrylate monomer, and (ii) at least one free radical stabilizer, wherein the free radical stabilizer is non-hazardous and shows good compatibility to the cyanoacrylate but does not impair the reactivity of the cyanoacrylate and its performance after curing.

17 Claims, No Drawings