

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 February 2005 (24.02.2005)

PCT

(10) International Publication Number
WO 2005/016479 A3

(51) International Patent Classification⁷: **C23F 11/00**,
11/06, G01N 21/64, 21/66, 1/00, C02F 1/52, 1/00, 1/68,
1/76

(21) International Application Number:
PCT/US2004/017815

(22) International Filing Date: 7 June 2004 (07.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/631,606 31 July 2003 (31.07.2003) US

(71) Applicant (for all designated States except US): **NALCO
COMPANY** [US/US]; 1601 W. Diehl Road, Naperville, IL
60563-1198 (US).

(72) Inventors: **GODFREY, Martin, R.**; 10 S. 120 Ridge
Road, Naperville, IL 60565-3181 (US). **HOOTS, John,
E.**; 1430 Lancaster Avenue, St. Charles, IL 60174 (US).

(74) Agent: **KEEFER, Timothy, J.**; c/o Seyfarth Shaw LLP,
55 E. Monroe, Suite 4200, Chicago, IL 60603-5863 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(88) Date of publication of the international search report:
21 July 2005

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: USE OF DISULFONATED ANTHRACENES AS INERT FLUORESCENT TRACERS

(57) Abstract: The use of an isomer of anthracene disulfonic acid as an inert fluorescent tracer is described and claimed. The utility of this type of inert fluorescent tracer in boiler systems to trace unwanted carryover of boiler water into a steam line is also described and claimed.



WO 2005/016479 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/17815

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C23F 11/00, 11/06; G01N 21/64, 66, 1/00; C02F 1/52, 1/00, 1/68, 1/76
US CL : 422/3, 7, 14, 82.08, 119; 210/709, 739, 749

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 422/3, 7, 14, 82.08, 119; 210/709, 739, 749

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,783,314 A (HOOTS et al.) 08 November 1988, see col. 1, lines 25-40; col. 2, lines 58-66; col. 3, lines 9-15; col. 4, lines 20-25 and 65-68; col. 5, lines 63-68; col. 6, lines 10-16; col. 11, lines 9-30; col. 12, lines 14-20 and 35-40; claims 1, 11 and 18.	1-2

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

17 February 2005 (17.02.2005)

Date of mailing of the international search report

29 MAR 2005

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

RICHARD CRISPINO

Telephone No. 571 272-1700