

PATENT LIST OF NALCO [JULY 2024]

No	Title and Agency	Year of Filing	Patent Ref Number/date of grant
1	Process for the Precipitation of Alumina Hydrate with superior purity & fineness. (NALCO Patent)Filed by NALCO	1991	Application No 313/Cal/91 Dated 24.04.91 Sealed on 05.09.1997 Granted: No 177582
2	Preparation of Low Soda, High Alpha Thermally Reactive Alumina. (NALCO Patent)Filed by NALCO	1995	Application No 127/Cal/1995 Dated 08.02.95 Sealed on 10.12.1999 Granted: No 182627
3	A Process for the Manufacture of Zeolite-A useful as a Detergent builder. (NALCO-CSMCRI Joint patent) Also filed in China, Australia, Russia, USA, EPO (Germany Rumania), Brazil, West Indies, Japan. (Filed by CSMCRI/CSIR) Filed by NRDC	1997 2000	No: NF 26/97, Dated 04.07.1997 Patent No: 233467 Grant Date: 30.03.2009 Granted in China, Australia, Russia, EPO countries. PCT/INoo/0130 Dated 19.12.2000
4	A Process for preparation of Alumino-silicate Zeolite of type Na-P. (NALCO-NCL Joint Patent) Filed by NALCO	1999	Filed No: NF 158/98, 1496/DEL/1999 Dated 18.11.99 Granted No 219882 Grant Date 14.05.2008
5	A process for the manufacturer of Aluminium Conductor Alloy with improved conductivity. (NALCO-RRL, Trivandrum Joint Patent) Filed by NALCO	1999	Filed 1281/DEL/1999,Dated 23.09.99 Granted: No 215620 Grant Date 28.02.2008
6	A Process for Producing Wear Resistant Cast Iron by Smelting Reducing of Waste Products like Red and De-Silicate Sand. (NALCO-IIT,KGP Joint Patent)Filed by NALCO	2003	Application No: 405/KOL/03 Dated 25.07.2003 Granted: No:203340 Grant Date 09.03.2007
7	A process for production of cement from refractory portion of SPL. (NALCO-NCB, Ballabgarha Joint Patent)	2008	Filed No 1995/Del/08 Dated 22.08.2008 Granted No: 294833 Date of Grant: 23.03.2018

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8	A Process for preparation of high temperature resistant ion exchange resin by bromination. (NALCO Patent)Filed by NALCO	2008	Filed No 1728/KOL/08 Date: 13.10.08 Granted No: 294636 Date of Grant: 20.03.2018
9	Process for preparation of alumina tri hydrate from bauxite with sodium carbonate & lime stone (NALCO Patent)Filed by NALCO	2008	Filed No 501/KOL/2008 Date: 11.03.08 Granted No: 296349 Date of Grant: 27.04.2018
10	Ultra-fine, low bulk density alumina tri hydrate and process for preparation thereof. (NALCO Patent)(Filed by NALCO)	2009	Filed No: 205/KOL/09,Dated 05.02.2009 Granted No 255308 (FY12-13) Date of Grant 11/02/2013
11	Surface Coated Micro-fined Alumina Tri-hydrate and process for preparation thereof. (NALCO Patent)(Filed by NALCO)	2009	Filed- No:186/KOL/09 Dated 03.02.2009 Granted No 257022(FY13-14) Date of Grant 27/08/2013
12	Process for preparation of constructional blocks, bricks and artificial ceramic stone chips utilizing red mud as the main base material.(NALCO-MRCPL joint Patent)(Filed by NALCO)	2009	Filed No: 472/KOL/09 Dated 17.03.2009 Granted No 269327 Date of Grant 15.10.2015
13	A process for development of Nano alumina aluminium composite for auto application. (NALCO Patent)(Filed by NALCO)	2010	Filed No: 1433/KOL/2010 Date: 22.12.2010. Patent Granted No: 400739 Date of Grant: 04.07.2022
14	Process for preparing prebaked carbon anodes having improved oxidation resistance for aluminium production.(NALCO Patent)(Filed by NALCO)	2010	Filed No: 29/KOL/2011 Dated 10.01.2011 Granted No 289807 Date of Grant 22.11.2017

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15	Extraction of alumina from Partially Laterised Khondalite (PLK). (NALCO-MISIS, Russia joint Patent)(Filed by NALCO)	2010	Filed No: 136/KOL/2010 Dated 12.02.2010 Granted No:292593 Date of Grant: 06.02.2018
16	Process for preparation of light weight foamed bricks (LWFBs) utilizing red mud and fly ash admixtures. (NALCO-JNARDDC Project) (Filed by NALCO)	2011	Filed 1051/KOL/2011 Dated 10.08.2011 Granted No 292333 Date of Grant: 30.01.2018
17	Process for preparation of glass ceramic tiles utilizing red mud as the main base material. (NALCO-JNARDDC Project) (Filed by NALCO)	2011	Filed No: 1045/KOL/2011 Dated 08.08.2011 Granted No :326108 Date of Grant : 28.11.2019
18	An improved drain valve disposed in the suction manifold of centrifugal pumps in the chemical process industry. (NALCO Patent)(Filed by NALCO)	2011	Filed 1518/KOL/2011 Dated 02.12.2011 Granted No : 329091 Date of Grant: 08.01.2020
19	Process for Production of Wear resistant ceramic tiles from low carbon fly ash as the major base material (NALCO-IIT, KGP Patent) (Filed by NALCO)	2012	Filed 253/KOL/2012 Dated 09.03.2012 Granted No 287533 Date of Grant 20.09.2017.
20	Controlled heat treatment process for destruction of leachable toxic cyanide in first cut aluminium spent pot lining material. (NALCO-JNARDDC Joint Patent) (Filed by NALCO)	2012	Filed No: 1381/KOL/2012 Date: 03.12.2012 Granted No: 301579 Date of Grant: 27.09.2018
21	A process for the production of Aluminium based metal-matrix composite reinforced with in-situ alumina –silicon carbide-carbon ceramic composite. (NALCO Patent), (Filed by NALCO)	2012	Filed No: 1366/KOL/2012 Dated 29.11.2012 Patent Granted No: 379795 Date of Grant: 22.10.2021

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22	Process for preparation of low ferric alum from waste or low grade aluminium dross. (NALCO-JNARDDC Joint Patent) (Filed by NALCO)	2013	Filed 280/KOL/2013 Dated 12.03.2013 Granted No: 406384 (FY 22-23) Date of Grant : 12.09.2022
23	Liquidus/Superheat temperature measurement system for Molten Cryolite Bath. (NALCO-JNARDDC Joint Patent) (Filed by NALCO)	2013	Filed 995/KOL/2013 Dated 28.08.2013 Patent Granted No: 334205 Date of Grant: 09.03.2020
24	Improvement in oxidation behaviour of calcined petroleum coke used for production of anodes in aluminium industry.(NALCO Patent)(Filed by NALCO)	2014	Filed No: 363/KOL/2014 dated 21.03.2014. Patent Granted No: 396966 Date of Grant: 17.05.2022
25	A pyro/hydro metallurgical process for the recovery of alumina and calcium silicate from fly ash. (NALCO-IMMT/CSIR Patent)(Filed by IMMT)	2016	Filed No 201611001044 Dated 12.01.2016 Granted No 344358 Date of Grant : 18.08.2020
26	Determination of Calcium in alumina hydrate, calcined alumina and process liquor. (NALCO-JNARDDC Patent) (Filed by JNARDDC)	2016	Patent Application No 201621038529 Dated 11.11.2016 Patent Granted No: 378743 Date of Grant: 06.10.2021
27	High speed extrusion Al-Mg-Si alloy billet with superior mechanical properties and method of manufacturing the same (NALCO Patent), (Filed by NALCO)	2016	Patent Application No 201631044031 Dated 23.12.2016 Patent No-502152 Date of grant-23.01.2024
28	A process for selective leaching of iron from alumina hydrate(NALCO-JNARDDC Patent) (Filed by JNARDDC)	2016	Patent Application No 201621038530 Dated 13.11.2016 Granted No :407793 (FY 22-23) Date of Grant : 28.09.2022

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29	A process for the recovery of rare earth elements from red mud.(NALCO-CSIR/NML Patent)(Filed by NALCO)	2016	Patent Application No 201631044861 Dated 29.12.2016 Grant Date: 20.03.2024 Patent No- 529372
30	A process for beneficiation of bauxite ore to obtain an upgraded alumina(NALCO Patent)Filed by NALCO	2017	Patent Application No 201731039417 Dated 06.11.2017 Granted No: 420845, Date of Grant 08.02.2023.
31	A method for utilization of spent pot lining carbon material in anode making in aluminium electrolysis process (NALCO Patent)(Filed by NALCO)	2019	Patent Application No 201931035371 Dated 03.09.2019. Patent No-438163. Date of grant-11.07.2023
32	Fabrication of pervious concrete from fly ash (NALCO-KIIT Joint Patent)(Filed by KIIT)	2019	Patent Application No 201931022205 Dated 04.06.2019 Patent granted on – 06.02.2024 Patent No- 507479
33	Powder Sintering process for enhancement of thermal conductivity of aluminium by Incorporating graphene. (NALCO-IIT-BBS)(Filed by IITBBSR)	2022	Patent Application No 202131054790 Dated 06.01.2022. Grant date- 17.05.2024 Patent No-538501
34	An eutectic electrolyte-based aluminium-ion battery using graphene-reinforced aluminium anode and a method thereof” (NALCO-IIT-BBS)(Filed by IITBBSR)	2023	Patent Application No 202331030286 Dated 27.04.2023 Grant date- 09.07.2024 Patent No-544538