

## Title (en)

PIEZOCERAMIC COMPOSITION, PIEZOCERAMIC BODY COMPRISING SAID COMPOSITION AND A METHOD FOR PRODUCING SAID COMPOSITION AND SAID BODY

## Title (de)

PIEZOKERAMISCHE ZUSAMMENSETZUNG, PIEZOKERAMISCHER KÖRPER MIT DER ZUSAMMENSETZUNG UND VERFAHREN ZUM HERSTELLEN DER ZUSAMMENSETZUNG UND DES KÖRPERS

## Title (fr)

COMPOSITION PIEZOCERAMIQUE, CORPS PIEZOCERAMIQUE COMPRENANT CETTE COMPOSITION ET LEURS PROCEDES DE PRODUCTION

## Publication

**EP 1578730 A3 20051214 (DE)**

## Application

**EP 03729863 A 20030505**

## Priority

- DE 0301430 W 20030505
- DE 10223987 A 20020529

## Abstract (en)

[origin: WO03101946A2] The invention relates to a piezoceramic composition with the general empirical formula  $Pb_{1-a}RE_bZr_xTi_yTR_zO_3$ , in which RE represents a rare-earth element, selected from a group comprising europium, gadolinium, lanthanum, neodymium, praseodymium, promethium and/or samarium, with a rare-earth element fraction b, TR represents at least one transition metal, selected from the group comprising chromium, iron and/or manganese, with a transition metal valency WTR and a transition metal fraction z and whereby the following interrelation is valid:  $z > b/(4 - WTR)$ . Homogenous PZT crystals with a maximum particle size are obtained even at low sintering temperatures by a non-stoichiometric dosing ratio of transition metal dosage to rare-earth element dosage. By varying the dosages, the piezoelectric characteristics of a PZT ceramic with said composition can be modified from those of a classic soft PZT to those of a classic hard PZT. The piezoceramic body is for example a monolithic, multi-layer piezoactuator, which can be used for multiple injections in the engine of a motor vehicle, as a result of a high d33 coefficient and low internal dissipation in the high-level signal range.

## IPC 1-7

**C07D 237/00**

## IPC 8 full level

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**C01G 23/003** (2013.01 - EP US); **C01G 25/006** (2013.01 - EP US); **C04B 35/491** (2013.01 - EP US); **H10N 30/097** (2023.02 - EP US); **H10N 30/50** (2023.02 - EP US); **H10N 30/8554** (2023.02 - EP US); **C01P 2004/61** (2013.01 - EP US); **H10N 30/053** (2023.02 - EP US)

## Citation (search report)

See references of WO 03101946A2

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DE FR GB IT

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## DOCDB simple family (application)

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