

ISO 11365:2017-09 (E)

Petroleum and related products - Requirements and guidance for the maintenance of triaryl phosphate ester turbine control fluids

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Description of triaryl phosphate ester fluids	1
5	Health and safety precautions	2
5.1	Fluid handling	2
5.2	Waste disposal	3
6	Fire hazards	3
6.1	General points	3
6.2	Methods of extinguishing fires	3
7	Compatibility of materials	3
7.1	Seals, paints and gaskets	3
7.2	Electrical cable insulation	4
8	Factors affecting service life	4
8.1	General	4
8.2	System design	4
8.3	System operating conditions	5
8.4	System maintenance	5
8.5	Fluid contamination	5
8.5.1	General	5
8.5.2	Air	5
8.5.3	Water	5
8.5.4	Particulates	5
8.5.5	Mineral oil	6
8.5.6	Metal soaps	6
8.5.7	Chlorinated materials	6
8.6	Fluid condition monitoring	6
8.7	Fluid purification	6
8.8	Fluid top up	7
9	Delivery and storage	7
10	Flushing the system	7
11	Fluid sampling	8
11.1	General	8
11.2	Containers	8
11.3	Sampling in service	8
11.3.1	General	8
11.3.2	Sampling points	8

11.3.3	Precautions to be taken when sampling from a line	9
11.3.4	Sampling from a tank or reservoir	9
11.4	Sampling of fresh fluid	9
11.5	Labelling	10
12	Recommended procedures for fluid monitoring	10
12.1	Appearance and colour	10
12.2	Water content	11
12.3	Neutralization number (Acid number - AN)	12
12.4	Fluid cleanliness	12
12.5	Direct current resistivity (volume resistivity)	13
12.6	Chlorine content	13
12.7	Mineral oil content	13
12.8	Viscosity	14
12.9	Air release	14
12.10	Foaming	14
13	Examination of new fluid	15
13.1	Acceptance tests for new fluid	15
13.2	Acceptance requirements after installation of a new fluid charge	16
14	Examination of used fluid	16
14.1	General	16
14.2	Trend analysis	18
	Bibliography	19