Polymerization

of monomers with organic peroxides

PERGAN
The Peroxide Company

The Peroxide Company

For more than 40 years your partner for organic peroxides

Since its foundation in 1981, Pergan has established itself in the national and international market as a manufacturer of organic peroxides.

With production facilities in Germany and the United States and a joint-venture in China we foster constructive and trusting business connections with our national and international customers.

Organic peroxides

The main stress of our business activity is put on the production and trade of organic peroxides. These are more or less stable chemical compounds which exclusively consist of carbon, hydrogen and oxygen. They are used as initiators and reaction substances in the plastics and rubber industry, because they easily decay in extremely active radicals.

Organic peroxides are used for:

- **polymerization of monomers for plastics manufacture**
- **crosslinking and modification of polymers,**
- **as the curing of unsaturated polyester-, vinylester- and acrylic resins**

Organic peroxides are furthermore used as oxidation materials for medical preparations and for complicated chemical synthesis.

Safety first and environmental conservation for PERGAN out of responsibility

Organic peroxides are highly reactive chemicals. The manufacturing, transport, storage, handling and last but not least the disposal of organic peroxides requires strict precautions. We have effected considerable investments into safety to eliminate risks, to avoid faults and to protect people and environment from becoming endangered. Naturally, we provide our customers support in any kind of safety, handling, or storage issue.

Customer orientation – a recipe for success

TÜV NORD

ZERTIFIKAT

für das Managementsystem nach
DIN EN ISO 9001 : 2015
DIN EN ISO 14001 : 2015

Die Zertifizierungsstelle TÜV NORD CERT GmbH bestätigt hiermit die Ergebnisse der Auditierung, Bewertung und Zertifikatsangelegenheitsprüfung gemäß ISO/IEC 17021-1:2015, dass die Organisation

Pergan GmbH
Schlüsselkuhrstr 71
46393 Bocholt
Deutschland

PERGAN
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ein Managementsystem konform zu den Anforderungen der ISO 9001 : 2015 und ISO 14001 : 2015 betreibt und innerhalb der Laufzeit des Zertifikats von 3 Jahren auf Konformität überwacht wird.

Geltungsbereich

Herstellung und Vertrieb von organischen Peroxiden und Hilfsstoffen für die Kunststoff- und Kautschukindustrie

Zertifikat-Registrier-Nr. 04 100 960591 Gültig von 2020-12-23 Gültig bis 2023-12-22
Zertifikat-Registrier-Nr. 04 104 960591 Gültig von 2020-12-23 Gültig bis 2023-12-22
Auditbericht-Nr. 2527 1588
Auditbericht-Nr. 2527 1587

Essen, 2023-12-01

Die Gültigkeit kann unter https://www.tuv-nord.de/de/unternehmenszertifizierung/zertifikatsdatenbank nachgeprüft werden.

TÜV NORD CERT GmbH Langenandreasstraße 20 45141 Essen www.tuv-nord-cert.de

IAF DAkkS

Our company holds
ISO 9001 and ISO 14001 certification

Competent

Part of our service also includes examining our customers' applications so that we can develop optimal product formulations and supply them with suitable peroxide- and other additive preparations for their process. Therefore we do not offer only products but moreover solutions to problems. The positive feedback from satisfied customers motivates us to keep continuing along this line.

Reliable

Quality does not only mean reliability but also includes services such as consultation and support for our customers helping them to solve their problems. Quality results from the performance of all employees. We work towards strengthening quality awareness through the help of information, internal and external training and motivation.

Flexible

As a medium sized company flexibility is one of our greatest strengths. We are able to react quickly, competently and efficiently to the individual wishes and requirements of our customers. In recognition of exceptional business achievements PERGAN was awarded the jury award „Company of the Year 2010" by Stadtsparkasse Bocholt.

Polymerization

of monomers with organic peroxides

A wide range of organic peroxides are used as initiators for the radical polymerization of monomers. Organic peroxides can be divided into diacyl peroxides, hydroperoxides, dialkyl peroxides, peroxyesters, peroxyketals and peroxy(di) carbonates.

The main areas of application for these initiators are low density polyethylene (LDPE), polyvinylchloride (PVC), styrenics (PS/EPS), acrylics (PMMA) and other polymers.

The polymerization of monomers takes place under varying controlled conditions, to which the properties of the initiator have to be adapted. Certain types of organic peroxides are also used for the chain degradation of polypropylene (PP).

Half life

An important factor for selecting an appropriate initiator is its decomposition rate, which is determined using its half life time. The half life is the time taken for half of the peroxide quantity to decompose in a specific solvent at a given temperature.

With the exception of hydroperoxides, the half life times were determined using a solution of the peroxide (0.1 mol/l) in monochlorobenzene. Listed are the temperatures at which the half lives are 10h, 1h and 1 min. Based on the 1h half life temperature, the initiators in our product guide are arranged in descending order of activity.

Storage temperatures

Organic Peroxides are more or less stable products but will decompose under the influence of heat. To prevent a loss of quality during storage, it is important that the recommended maximum storage temperature is not exceeded and the minimum storage temperature not breached.

UN-Number

The transport of the listed organic peroxides classified from UN 3111 to UN 3120 has to be temperature controlled.

Packaging

As an alternative to our standard cardboard box, pail, drum and polyethylene container, we can supply certain initiator formulations in reusable stainless steel IBC (up to 1.25m³ volume). Packaging in IBCs offers obvious ecological benefits as well as gains terms of logistics by allowing automated and faster handling.

Miscellaneous

We would be more than happy to provide you with technical information and safety data sheets concerning all of our products. Please refer to our web address:
www.pergan.com

Safety first and environmental conservation for PERGAN out of responsibility

Organic peroxides are highly reactive chemicals. Therefore, they are - determined by national and international regulations - to some extent as dangerous materials (flammable, may cause fire and partly able to explode).

The manufacturing, transport, storage, handling and last but not least disposal of organic peroxides requires strict precautions.

We have made considerable investments into safety to eliminate risks, avoid faults and protect people and the environment from becoming endangered.

Naturally, we provide our customers with support in any kind of safety, handling, or storage issue.

European Organic Peroxide Safety Group (EOPSG)

PERGAN is a member of EOPSG and with this brochure we would like to give you a deeper insight in safe handling and transport operations of Organic Peroxides in road and sea transport. The described procedures and equipment, supplementary to the legal requirements, represent the standard practices of the authors of this guide.

Download EOPSG brochure
PDF files (appx. 2,4 MB)

SADT

The SADT is the lowest temperature at which a self accelerating decomposition may occur.

Emergency temperature

The emergency temperature is derived from the SADT. It is the temperature at which emergency actions have to be taken.

Control temperature

The control temperature is also derived from the SADT. The control temperature is the maximum temperature at which the product can be transported safely.

Applications

in alphabetical order

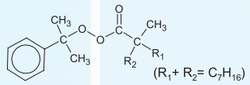
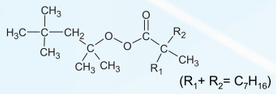
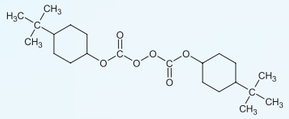
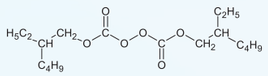
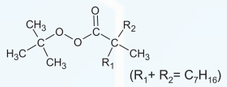
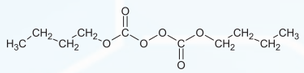
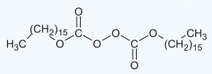
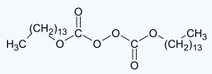
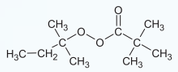
Product name	LDPE	PP	PVC	PS	PMMA	Other	Type of initiator	Page
PEROXAN AEC				●	●		Peroxyester	10
PEROXAN APO	●			●	●		Peroxyester	10
PEROXAN APV	●		●		●		Peroxyester	8
PEROXAN BCC			●	●	●		Peroxydicarbonate	8
PEROXAN BCC-75			●				Peroxydicarbonate	8
PEROXAN BCC-40 W			●				Peroxydicarbonate	8
PEROXAN BEC	●			●	●		Peroxyester	12
PEROXAN BHP-10			●	●	●		Hydroperoxide	14
PEROXAN BHP-70			●	●	●		Hydroperoxide	14
PEROXAN BIB-1		●		●			Dialkyl peroxide	12
PERGAPROP BIB-40 PP-G		●					Dialkyl peroxide	12
PERGAPROP BIB-20 PP-FN		●					Dialkyl peroxide	12
PEROXAN BIC	●			●	●		Peroxyester	12
PEROXAN BP-25 WD				●	●		Diacyl peroxide	10
PEROXAN BU	●			●	●		Dialkyl peroxide	12
PEROXAN C124			●		●		Peroxydicarbonate	8
PEROXAN C126			●		●		Peroxydicarbonate	8
PEROXAN CND	●		●				Peroxyester	8
PEROXAN CND-50 WN-A			●				Peroxyester	8
PEROXAN CU-90 L				●	●		Hydroperoxide	14
PEROXAN CU-80 L				●	●		Hydroperoxide	14
PEROXAN DA	●	●			●		Dialkyl peroxide	12
PEROXAN DB	●	●		●	●		Dialkyl peroxide	14
PEROXAN DB-50	●						Dialkyl peroxide	14
PEROXAN DB-50 W		●					Dialkyl peroxide	14
PEROXAN DC				●	●		Dialkyl peroxide	2
PEROXAN EPC S			●		●		Peroxydicarbonate	8
PEROXAN EPC-75	●		●		●		Peroxydicarbonate	8
PEROXAN EPC-65	●		●		●		Peroxydicarbonate	8
PEROXAN EPC-60 WN-A			●				Peroxydicarbonate	8
PEROXAN EPC-50 WN-A			●				Peroxydicarbonate	8
PERGASAFE FR				●		●	C-C Initiator*	14
PEROXAN HX		●					Dialkyl peroxide	14
PEROXAN HX-80		●					Dialkyl peroxide	14
PEROXAN HX-80 W		●					Dialkyl peroxide	14

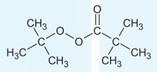
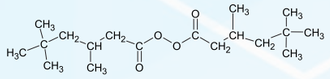
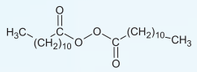
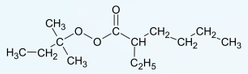
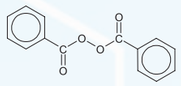
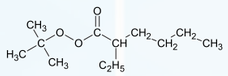
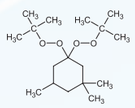
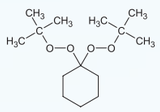
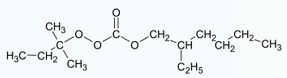
* Flame retardant synergist

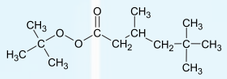
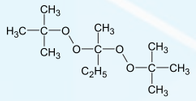
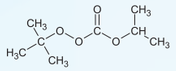
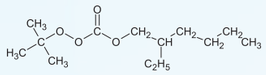
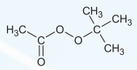
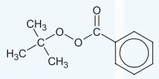
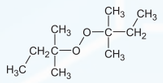
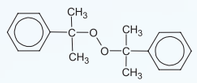
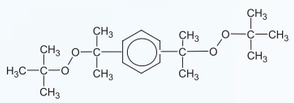
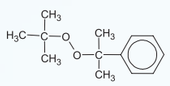
Dialkyl peroxide · Diacyl peroxide · Peroxyester

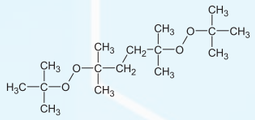
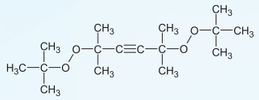
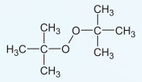
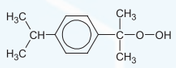
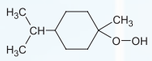
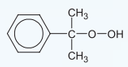
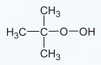
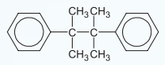
Product name	LDPE	PP	PVC	PS	PMMA	Other	Type of initiator	Page
PEROXAN HX-50 W		●					Dialkyl peroxide	14
PERGAPROP HX-20 PP		●					Dialkyl peroxide	14
PERGAPROP HX-10 PP		●					Dialkyl peroxide	14
PERGAPROP HX-7,5 PP		●					Dialkyl peroxide	14
PEROXAN HXY-85 W	●			●	●		Dialkyl peroxide	14
PEROXAN IHP-50				●	●		Hydroperoxide	14
PEROXAN LP			●	●	●		Diacyl peroxide	10
PEROXAN LP-40 W			●		●		Diacyl peroxide	10
PEROXAN NBC-50	●		●				Peroxydicarbonate	8
PEROXAN NPO	●		●		●		Diacyl peroxide	10
PEROXAN NPO-50	●		●				Diacyl peroxide	10
PEROXAN OPN-70	●		●				Peroxyester	8
PEROXAN OPN-50 WN-A			●				Peroxyester	8
PEROXAN PA-50	●			●	●		Peroxyester	12
PEROXAN PAM						●	Hydroperoxide	14
PEROXAN PB	●			●	●		Peroxyester	12
PEROXAN PIN	●			●	●		Peroxyester	12
PEROXAN PIN-30	●						Peroxyester	12
PEROXAN PK122 V-80				●	●		Peroxyketal	10
PEROXAN PK122 V	●			●	●		Peroxyketal	10
PEROXAN PK122 W	●			●	●		Peroxyketal	10
PEROXAN PK234 V	●			●	●		Peroxyketal	12
PEROXAN PK234 W	●			●	●		Peroxyketal	12
PEROXAN PK295 V-90	●			●	●		Peroxyketal	10
PEROXAN PK295 V-75	●			●	●		Peroxyketal	10
PEROXAN PK295 V	●			●	●		Peroxyketal	10
PEROXAN PND	●		●		●		Peroxyester	8
PEROXAN PND-75	●		●				Peroxyester	8
PEROXAN PND-25	●						Peroxyester	8
PEROXAN PO	●			●	●		Peroxyester	10
PEROXAN PO-70	●			●	●		Peroxyester	10
PEROXAN PO-30	●						Peroxyester	10
PEROXAN PPV	●		●		●		Peroxyester	10
PEROXAN PPV-65	●		●		●		Peroxyester	10
PEROXAN PPV-25	●						Peroxyester	10

Peroxydicarbonate · C-C Initiator · Hydroperoxide · Peroxyketal

Type of initiator / Trade name	Chemical name / Chemical structure	CAS number / Physical form	Molecular weight	Peroxide assay	Active oxygen assay	Standard package	Storage temperatures max.	Storage temperatures min.	Half life temperatures 10h	Half life temperatures 1h	Half life temperatures 1min	Safety temperatures: Control temperature	Safety temperatures: Emergency temperature	Safety temperatures: SADT	UN-No.
Peroxyester	Cumyl peroxyneodecanoate	26748-47-0	306,4		5,22%				38°C	56°C	91°C				
PEROXAN CND **PEROXAN CND-50 WN-A**		Solution in OMS Emulsion in water and methanol		75% 50%	3,92% 2,61%	25kg Container 1100kg IBC	-15°C -15°C	 -25°C				-10°C -15°C	0°C -5°C	10°C 0°C	3115 3119
Peroxyester	1,1,3,3-Tetramethylbutyl peroxyneodecanoate	51240-95-0	300,5		5,32%				40°C	57°C	93°C				
PEROXAN OPN-70 **PEROXAN OPN-50 WN-A**		Solution in OMS Emulsion in water and methanol		70% 50%	3,73% 2,66%	25kg Container 900kg IBC	-15°C -15°C	 -20°C				-5°C -5°C	5°C 5°C	15°C 15°C	3115 3119
Peroxydicarbonate	Di-(4-tert-butyl-cyclohexyl)-peroxydicarbonate	15520-11-3	398,5		4,01%				48°C	64°C	98°C				
PEROXAN BCC **PEROXAN BCC-75** **PEROXAN BCC-40 W**		Powder Powder, wet Suspension in water		95% 75% 40%	3,80% 3,00% 1,60%	20kg Cardboard box 20kg Cardboard box 900kg IBC	15°C 15°C 15°C	 5°C 5°C				30°C 30°C 30°C	35°C 35°C 35°C	40°C 40°C 40°C	3114 3114 3119
Peroxydicarbonate	Di-(2-ethylhexyl)-peroxydicarbonate	16111-62-9	346,5		4,62%				47°C	64°C	99°C				
PEROXAN EPC S **PEROXAN EPC-75** **PEROXAN EPC-65** **PEROXAN EPC-60 WN-A** **PEROXAN EPC-50 WN-A**		Liquid Solution in OMS Solution in OMS Emulsion in water and methanol Emulsion in water and methanol		95% 75% 65% 60% 50%	4,39% 3,46% 3,00% 2,77% 2,31%	25kg Container 25kg Container 25kg Container 1100kg IBC 1100kg IBC	-20°C -15°C -15°C -15°C -15°C	-30°C -25°C -25°C -20°C -20°C				-20°C -15°C -15°C -20°C -20°C	-10°C -5°C -5°C -10°C -10°C	0°C 5°C 5°C 0°C 0°C	3113 3115 3115 3119 3119
Peroxyester	tert-Butyl peroxyneodecanoate	26748-41-4	244,4		6,55%				46°C	64°C	101°C				
PEROXAN PND **PEROXAN PND-75** **PEROXAN PND-25**		Liquid Solution in OMS Solution in OMS		95% 75% 25%	6,22% 4,91% 1,64%	25kg Container 25kg Container 900kg IBC	-10°C -10°C -10°C					-5°C 0°C 0°C	5°C 10°C 10°C	15°C 20°C 20°C	3115 3115 3119
Peroxydicarbonate	Di-n-butyl peroxydicarbonate	16215-49-9	234,3		6,83%				49°C	65°C	99°C				
PEROXAN NBC-50		Solution in OMS		50%	3,41%	25kg Container	-15°C					-15°C	-5°C	5°C	3115
Peroxydicarbonate	Dicetyl peroxydicarbonate	26322-14-5	570,9		2,80%				48°C	65°C	100°C				
PEROXAN C124		Flakes		94%	2,63%	20kg Cardboard box	15°C					30°C	35°C	40°C	3120
Peroxydicarbonate	Dimyristyl peroxydicarbonate	53220-22-7	514,8		3,11%				48°C	65°C	100°C				
PEROXAN C126		Flakes		95%	2,95%	20kg Cardboard box	15°C					20°C	25°C	35°C	3116
Peroxyester	tert-Amyl peroxypivalate	29240-17-3	188,3		8,50%				55°C	72°C	107°C				
PEROXAN APV		Solution in OMS		75%	6,37%	25kg Container	-10°C					10°C	15°C	25°C	3113

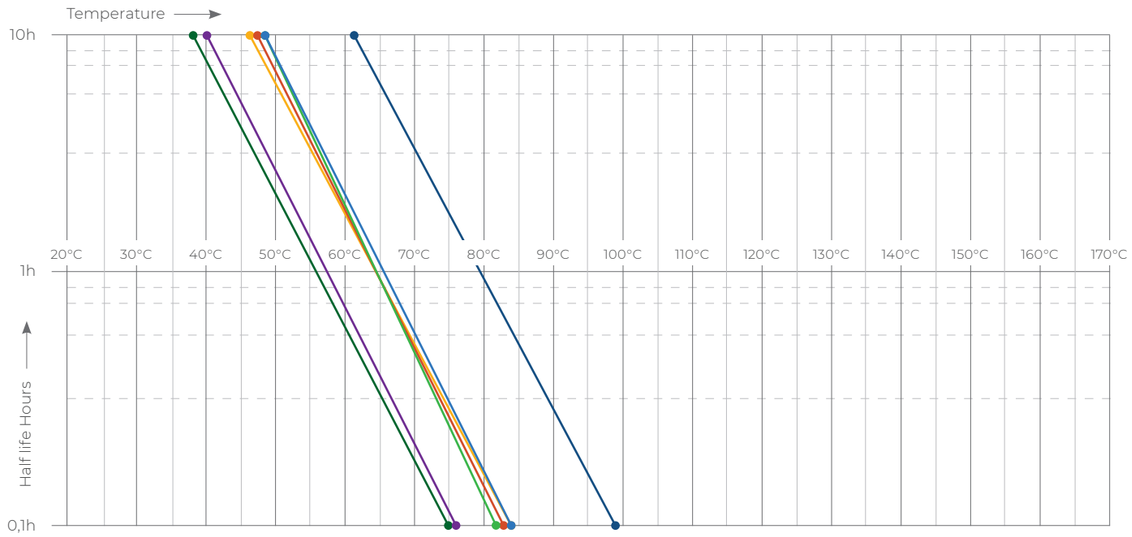
Type of initiator / Trade name	Chemical name / Chemical structure	CAS number / Physical form	Molecular weight	Peroxide assay	Active oxygen assay	Standard package	Storage temperatures max.	Storage temperatures min.	Half life temperatures 10h	Half life temperatures 1h	Half life temperatures 1min	Safety temperatures Control temperature	Safety temperatures Emergency temperature	Safety temperatures SADT	UN-No.
Peroxyester	tert-Butyl peroxypivalate	927-07-1	174,2		9,18%				57°C	75°C	111°C				
PEROXAN PPV **PEROXAN PPV-65** **PEROXAN PPV-25**		Solution in OMS Solution in OMS Solution in OMS		75% 65% 25%	6,89% 5,97% 2,30%	25kg Container 25kg Container 900kg IBC	-5°C -5°C -5°C					0°C 0°C 10°C	10°C 10°C 15°C	20°C 20°C 25°C	3113 3115 3119
Diacyl peroxide	Di-(3,5,5-trimethylhexanoyl)-peroxide	3851-87-4	314,5		5,09%				59°C	77°C	112°C				
PEROXAN NPO **PEROXAN NPO-50**		Solution in OMS Solution in OMS		75% 50%	3,82% 2,54%	25kg Container 900kg IBC	0°C 5°C	-8°C -8°C				0°C 10°C	10°C 15°C	20°C 25°C	3115 3119
Diacyl peroxide	Dilauroyl peroxide	105-74-8	398,6		4,01%				61°C	79°C	117°C				
PEROXAN LP **PEROXAN LP-40 W**		Flakes Suspension in water		99% 40%	3,97% 1,61%	25kg Cardboard box 25kg Container, 900kg IBC	30°C 30°C 30°C	 5°C 5°C				- - -	- - -	50°C 50°C 50°C	3106 3109 3109
Peroxyester	tert-Amyl peroxy-2-ethylhexanoate	686-31-7	230,4		6,95%				73°C	91°C	128°C				
PEROXAN APO		Liquid		95%	6,60%	25kg Container	5°C					20°C	25°C	35°C	3115
Diacyl peroxide	Dibenzoyl peroxide	94-36-0	242,2		6,61%				71°C	91°C	132°C				
PEROXAN BP-25 WD		Powder, wet		75%	4,95%	20kg Cardboard box	30°C	5°C				-	-	80°C	3104
Peroxyester	tert-Butyl peroxy-2-ethylhexanoate	3006-82-4	216,3		7,40%				72°C	91°C	131°C				
PEROXAN PO **PEROXAN PO-70** **PEROXAN PO-30**		Liquid Solution in OMS Solution in OMS		98% 70% 30%	7,25% 5,18% 2,22%	25kg Container 25kg Container 900kg IBC	15°C 15°C 15°C					20°C 20°C 30°C	25°C 25°C 35°C	35°C 35°C 40°C	3113 3113 3119
Peroxyketal	1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	6731-36-8	302,5		10,58%				85°C	105°C	148°C				
PEROXAN PK295 V-90 **PEROXAN PK295 V-75** **PEROXAN PK295 V**		Solution in OMS Solution in OMS Solution in OMS		90% 75% 50%	9,52% 7,93% 5,29%	25kg Container 25kg Container 20kg Container	30°C 30°C 30°C					- - -	- - -	60°C 60°C 60°C	3103 3103 3107
Peroxyketal	1,1-Di-(tert-butylperoxy)-cyclohexane	3006-86-8	260,4		12,29%				94°C	113°C	152°C				
PEROXAN PK122 V-80 **PEROXAN PK122 V** **PEROXAN PK122 W**		Solution in OMS Solution in OMS Solution in white oil		80% 50% 50%	9,83% 6,14% 6,14%	20kg Container 20kg Container 20kg Container	25°C 30°C 30°C					- - -	- - -	60°C 70°C 70°C	3103 3105 3105
Peroxyester	tert-Amyl peroxy-2-ethylhexylcarbonate	70833-40-8	260,4		6,14%				95°C	113°C	151°C				
PEROXAN AEC		Liquid		94%	5,78%	25kg Container	25°C					-	-	55°C	3105

Type of initiator / Trade name	Chemical name / Chemical structure	CAS number / Physical form	Molecular weight	Peroxide assay	Active oxygen assay	Standard package	Storage temperatures max.	Storage temperatures min.	Half life temperatures 10h	Half life temperatures 1h	Half life temperatures 1min	Safety temperatures Control temperature	Safety temperatures Emergency temperature	Safety temperatures SADT	UN-No.
Peroxyester	tert-Butyl peroxy-3,5,5-trimethylhexanoate	13122-18-4	230,3		6,95%				94°C	114°C	154°C				
PEROXAN PIN **PEROXAN PIN-30**		Liquid Solution in OMS		98% 30%	6,81% 2,09%	25kg Container 900kg IBC	30°C 30°C					- -	- -	60°C 60°C	3105 3109
Peroxyketal	2,2-Di-(tert-butylperoxy)-butane	2167-23-9	234,2		13,66%				98°C	116°C	153°C				
PEROXAN PK234 V **PEROXAN PK234 W**		Solution in OMS Solution in white oil		50% 50%	6,83% 6,83%	20kg Container 25kg Container	30°C 30°C					- -	- -	70°C 70°C	3103 3103
Peroxyester	tert-Butyl peroxyisopropylcarbonate	2372-21-6	176,2		9,08%				98°C	117°C	155°C				
PEROXAN BIC		Solution in OMS		75%	6,81%	25kg Container	25°C	0°C				-	-	60°C	3103
Peroxyester	tert-Butyl peroxy-2-ethylhexylcarbonate	34443-12-4	246,3		6,49%				98°C	117°C	154°C				
PEROXAN BEC		Liquid		95%	6,17%	25kg Container	30°C					-	-	60°C	3105
Peroxyester	tert-Butyl peroxyacetate	107-71-1	132,2		12,11%				100°C	119°C	157°C				
PEROXAN PA-50		Solution in OMS		50%	6,05%	20kg Container	10°C					-	-	70°C	3103
Peroxyester	tert-Butyl peroxybenzoate	614-45-9	194,2		8,24%				103°C	122°C	160°C				
PEROXAN PB		Liquid		98%	8,07%	25kg Container	30°C	10°C				-	-	60°C	3103
Dialkyl peroxide	Di-tert-amylperoxide	10508-09-5	174,3		9,18%				108°C	128°C	169°C				
PEROXAN DA		Liquid		93%	8,53%	20kg Container	30°C					-	-	50°C	3107
Dialkyl peroxide	Dicumyl peroxide	80-43-3	270,4		5,92%				112°C	132°C	172°C				
PEROXAN DC		Granules		98%	5,80%	20kg Cardboard box	30°C					-	-	80°C	3110
Dialkyl peroxide	Di-(2-tert-butyl-peroxyisopropyl)-benzene	25155-25-3	338,5		9,45%				114°C	134°C	174°C				
PEROXAN BIB-1 **PERGAPROP BIB-40 PP-G** **PERGAPROP BIB-20 PP-FN**		Powder Granules with polypropylene Fine granules with polypropylene		95% 40% 20%	8,98% 3,78% 1,89%	20kg Cardboard box 20kg Cardboard box 20kg Cardboard box	30°C 30°C 30°C					- - -	- - -	80°C 80°C 80°C	3106 none none
Dialkyl peroxide	tert-Butylcumyl peroxide	3457-61-2	208,3		7,68%				115°C	136°C	178°C				
PEROXAN BU		Liquid		94%	7,22%	25kg Container	30°C	15°C				-	-	90°C	3109

Type of initiator / Trade name	Chemical name / Chemical structure	CAS number / Physical form	Molecular weight	Peroxide assay	Active oxygen assay	Standard package	Storage temperatures max.	Storage temperatures min.	Half life temperatures 10h	Half life temperatures 1h	Half life temperatures 1min	Safety temperatures: Control temperature	Safety temperatures: Emergency temperature	Safety temperatures: SADT	UN-No.
Dialkyl peroxide	2,5-Dimethyl-2,5-di-(tert-butylperoxy)-hexane	78-63-7	290,4		11,02%				115°C	134°C	174°C				
PEROXAN HX		Liquid		92%	10,14%	25kg Container	40°C	10°C				-	-	80°C	3103
PEROXAN HX-80		Solution in OMS		80%	8,82%	20kg Container	40°C	5°C				-	-	90°C	3105
PEROXAN HX-80 W		Solution in white oil		80%	8,82%	25kg Container	40°C	5°C				-	-	90°C	3105
PEROXAN HX-50 W		Solution in white oil		50%	5,51%	20kg Container,	40°C	5°C				-	-	90°C	3109
						900kg IBC	40°C	5°C				-	-	90°C	3109
PERGAPROP HX-20 PP		Granules with polypropylene		20%	2,20%	20kg Cardboard box	40°C	10°C				-	-	80°C	3108
PERGAPROP HX-10 PP		Granules with polypropylene		10%	1,10%	20kg Cardboard box	40°C	10°C				-	-	80°C	3108
PERGAPROP HX-7,5 PP		Granules with polypropylene		7,5%	0,83%	20kg Cardboard box	40°C	10°C				-	-	80°C	none
Dialkyl peroxide	2,5-Dimethyl-2,5-di(tert-butylperoxy)hexyne-3	1068-27-5	286,4		11,17%				120°C	141°C	184°C				
PEROXAN HXY-85 W		Solution in white oil		85%	9,50%	25kg Container	30°C	10°C				-	-	80°C	3103
Dialkyl peroxide	Di-tert-butyl peroxide	110-05-4	146,2		10,94%				121°C	141°C	183°C				
PEROXAN DB		Liquid		98%	10,72%	20kg Container,	40°C					-	-	80°C	3107
						154kg Drum	40°C					-	-	80°C	3107
PEROXAN DB-50		Solution in OMS		50%	5,47%	20kg Container,	40°C					-	-	80°C	3109
						900kg IBC	40°C					-	-	80°C	3109
PEROXAN DB-50 W		Solution in white oil		50%	5,47%	20kg Container,	40°C					-	-	80°C	3109
						900kg IBC	40°C					-	-	80°C	3109
Hydroperoxide	Di-isopropylbenzene-mono hydroperoxide	26762-93-6	194,3		8,24%				129°C	154°C	207°C				
PEROXAN IHP-50		Solution in diisopropylbenzene		50%	4,12%	25kg Container,	25°C					-	-	80°C	3109
						180kg Drum	25°C					-	-	80°C	3109
Hydroperoxide	p-Menthan hydroperoxide	26762-92-5	172,3		9,28%				133°C	163°C	218°C				
PEROXAN PAM		Solution in hydrocarbon		50%	4,64%	25kg Container,	25°C					-	-	80°C	3109
						185kg Drum,	25°C					-	-	80°C	3109
						925kg IBC	25°C					-	-	80°C	3109
Hydroperoxide	Cumyl hydroperoxide	80-15-9	152,2		10,51%				140°C	166°C	222°C				
PEROXAN CU-90 L		Solution in cumene		90%	9,46%	25kg Container,	30°C	0°C				-	-	70°C	3109
						200kg Drum	30°C	0°C				-	-	70°C	3109
PEROXAN CU-80 L		Solution in cumene		80%	8,41%	25kg Container,	30°C	0°C				-	-	80°C	3109
						200kg Drum	30°C	0°C				-	-	80°C	3109
Hydroperoxide	tert-Butyl hydroperoxide	75-91-2	90,1		17,75%				164°C	185°C	227°C				
PEROXAN BHP-70		Solution in water		70%	12,43%	25kg Container,	30°C	5°C				-	-	90°C	3109
						190kg Drum,	30°C	5°C				-	-	90°C	3109
						1000kg IBC	30°C	5°C				-	-	90°C	3109
PEROXAN BHP-10		Solution in water		10%	1,78%	1000kg IBC	30°C	5°C				-	-	90°C	3109
C-C Initiator	2,3-Dimethyl-2,3-diphenylbutan	1889-67-4	238,4						237°C	259°C	305°C				
PERGASAFE FR (Synergist for flame retardant system)		Powder		-	-	20kg Cardboard box	30°C					-	-	-	none

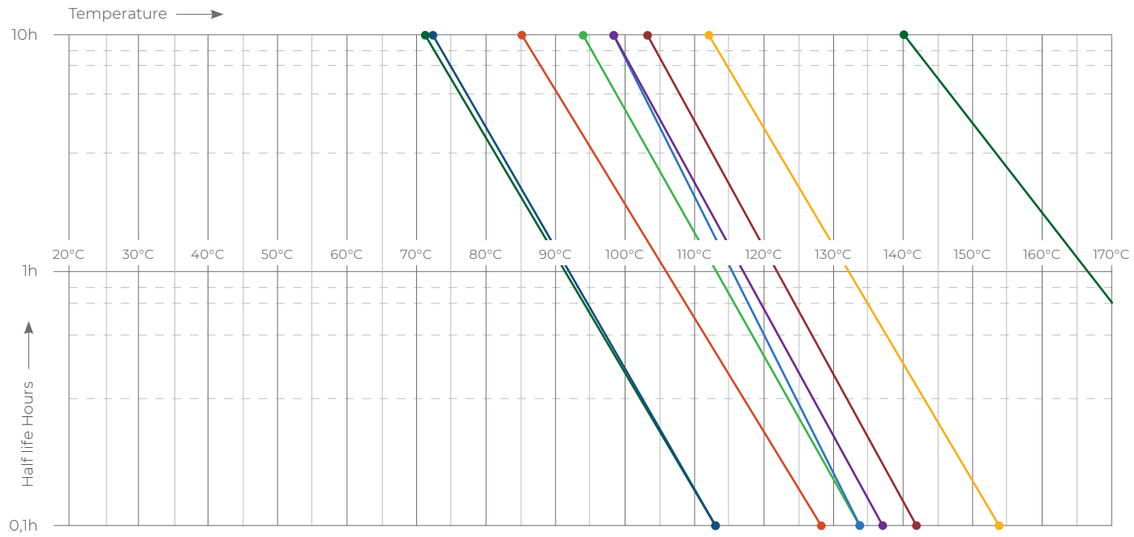
Half life charts

Initiators for PVC



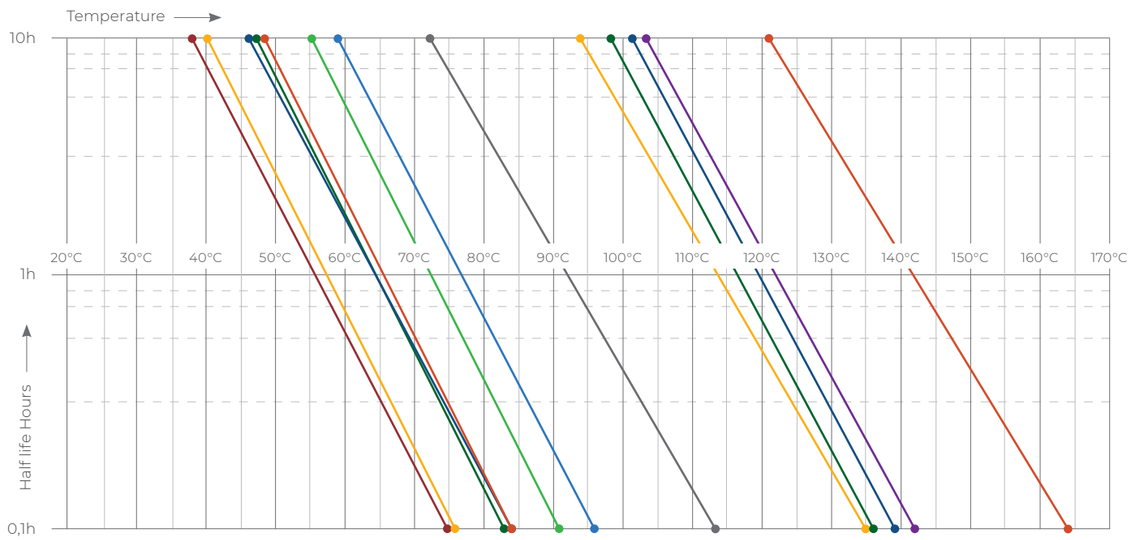
Trade name 0,1h | 1h | 10h	PEROXAN CND 75°C | 56°C | 38°C	PEROXAN OPN 76°C | 57°C | 40°C	PEROXAN PND 84°C | 64°C | 46°C	PEROXAN EPC 83°C | 64°C | 47°C
	PEROXAN BCC 82°C | 64°C | 48°C	PEROXAN C124 84°C | 65°C | 48°C	PEROXAN C126 84°C | 65°C | 48°C	PEROXAN LP 99°C | 79°C | 61°C

Initiators for Styrenics



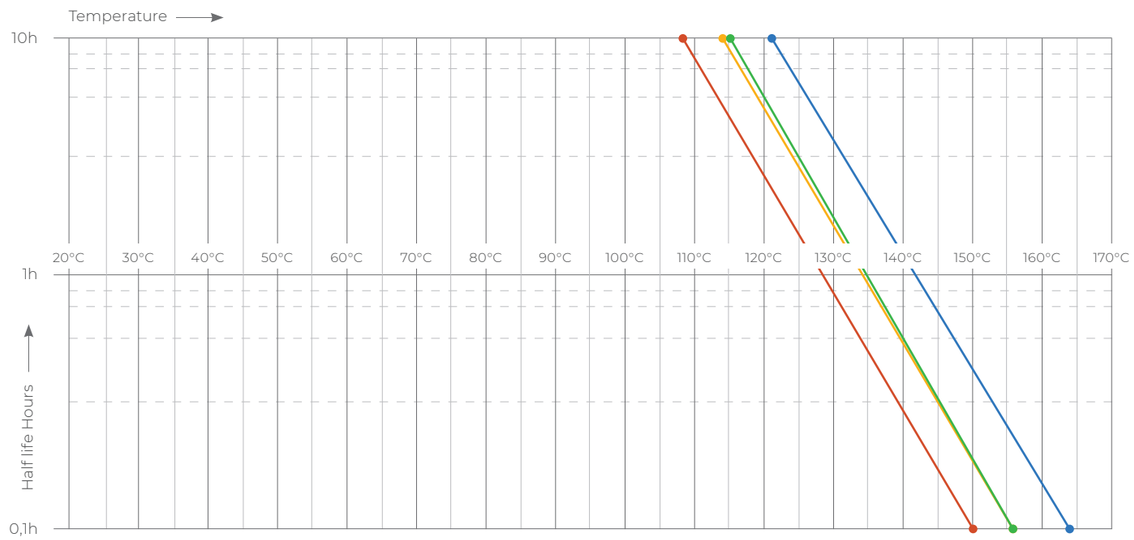
PEROXAN BP 113°C | 91°C | 71°C	PEROXAN PO 113°C | 91°C | 72°C	PEROXAN PK295 128°C | 105°C | 85°C	PEROXAN PK122 134°C | 113°C | 94°C	PEROXAN AEC 134°C | 113°C | 98°C
PEROXAN BEC 137°C | 117°C | 98°C	PEROXAN BIC 137°C | 117°C | 98°C	PEROXAN PB 142°C | 122°C | 103°C	PEROXAN DC 154°C | 132°C | 112°C	PEROXAN CU 195°C | 166°C | 140°C

Initiators for LDPE



PEROXAN CND 75°C | 56°C | 38°C	PEROXAN OPN 76°C | 57°C | 40°C	PEROXAN EPC 83°C | 64°C | 47°C	PEROXAN PND 84°C | 64°C | 46°C	PEROXAN APV 91°C | 72°C | 55°C	PEROXAN PPV 84°C | 65°C | 48°C	PEROXAN NPO 96°C | 77°C | 59°C
PEROXAN PO 113°C | 91°C | 72°C	PEROXAN PIN 135°C | 114°C | 94°C	PEROXAN PK234 136°C | 116°C | 98°C	PEROXAN PA 139°C | 119°C | 100°C	PEROXAN PB 142°C | 122°C | 103°C	PEROXAN DB 164°C | 141°C | 121°C	

Initiators for CRPP



Trade name 0,1h | 1h | 10h	PEROXAN DA 150°C | 128°C | 108°C	PEROXAN BIB 156°C | 134°C | 114°C	PEROXAN HX 156°C | 134°C | 115°C	PEROXAN DB 164°C | 141°C | 121°C

Major decomposition products

of organic peroxides

Chemical name / Trade name	Major decomposition products
Cumyl peroxyneodecanoate	
PEROXAN CND **PEROXAN CND-50 WN-A**	Carbon dioxide, Methane, Neodecanoic acid, Isoaliphatics, 2-Phenylpropanol-2, Acetophenone, Cumene
1,1,3,3-Tetramethylbutyl peroxyneodecanoate	
PEROXAN OPN-70 **PEROXAN OPN-50 WN-A**	Carbon dioxide, 2,2-Dimethylpropane, 2,4,4-Trimethyl-2-pentanol, Isomers of isooctane
Di-(4-tert-butyl-cyclohexyl)-peroxydicarbonate	
PEROXAN BCC **PEROXAN BCC-75** **PEROXAN BCC-40 W**	Carbon dioxide, 4-tert.-butylcyclohexanol, 4-tert.-butylcyclohexanone
Di-(2-ethylhexyl)-peroxy-dicarbonate	
PEROXAN EPC S **PEROXAN EPC-75** **PEROXAN EPC-65** **PEROXAN EPC-60 WN-A** **PEROXAN EPC-50 WN-A**	Carbon dioxide, 2-Ethylhexanol
Dibenzoyl peroxide	
PEROXAN BP-25 WD	Carbon dioxide, Benzene, Benzoic acid
tert-Butyl peroxy-2-ethylhexanoate	
PEROXAN PO **PEROXAN PO-70** **PEROXAN PO-30**	Carbon dioxide, tert-Butanol, Heptane, 3-tert-Butoxyheptane
1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	
PEROXAN PK295 V-90 **PEROXAN PK295 V-75** **PEROXAN PK295 V**	Carbon dioxide, Methane, 3,3,5-Trimethylcyclohexanone, tert-Butanol, Acetone
1,1-Di-(tert-butylperoxy)-cyclohexane	
PEROXAN PK122 V-80 **PEROXAN PK122 V** **PEROXAN PK122 W**	Carbon dioxide, Methane, tert-Butanol, Acetone, Hexanoic acid
tert-Amyl peroxy-2-ethylhexylcarbonate	
PEROXAN AEC	Carbon dioxide, 2-Ethylhexanol, tert Amyl alcohol

Chemical name / Trade name	Major decomposition products
tert-Butyl peroxy-3,5,5-trimethylhexanoate	
PEROXAN PIN **PEROXAN PIN-30**	Carbon dioxide, Methane, tert-Butanol, Acetone, 2-tert-Butyloxy-2,4,4-trimethylpentane
2,2-Di-(tert-butylperoxy)-butane	
PEROXAN PK234 V **PEROXAN PK234 W**	Methane, Ethane, Acetone, tert-Butanol, Carbon dioxide, 2-Methoxy-2-methylpropane
tert-Butyl peroxyneodecanoate	
PEROXAN PND **PEROXAN PND-75** **PEROXAN PND-25**	Carbon dioxide, tert-Butanol, Isomers of isooctanee
Di-n-butyl peroxydicarbonate	
PEROXAN NBC-50	Carbon dioxide, Butanol
Dicetyl peroxydicarbonate	
PEROXAN C124	Carbon dioxide, Hexadecanol
Dimyristyl peroxydicarbonate	
PEROXAN C126	Carbon dioxide, Tetradecanol
tert-Amyl peroxypivalate	
PEROXAN APV	Carbon dioxide, Ethane, Isobutane, Isobutene, Aceton, Methylethylketon, tert-Amyl alcohol
tert-Butyl peroxypivalate	
PEROXAN PPV **PEROXAN PPV-65** **PEROXAN PPV-25**	Carbon dioxide, Isobutane, Isobutene, tert-Butanol
Di-(3,5,5-trimethylhexanoyl)-peroxide	
PEROXAN NPO **PEROXAN NPO-50**	Carbon dioxide, 2,2,4,7,9,9-Hexamethyldecane, 2,4,4-Trimethylpentane

Chemical name / Trade name	Major decomposition products
tert-Butyl peroxyisopropyl-carbonate	
PEROXAN BIC	Carbon dioxide, Methane, Acetone, tert-Butanol, Isopropanol
tert-Butyl peroxy-2-ethylhexyl-carbonate	
PEROXAN BEC	Carbon dioxide, tert-Butanol, 2-Ethylhexanol
tert-Butyl peroxyacetate	
PEROXAN PA-50	Carbon dioxide, Acetone, Methane, tert-Butanol, 2-Methoxy-2-methylpropane
tert-Butyl peroxybenzoate	
PEROXAN PB	Carbon dioxide, Acetone, Methane, tert-Butanol, Benzoic acid, Benzene
Di-tert-amylperoxide	
PEROXAN DA	Methane, tert-Amyl alcohol
Dicumyl peroxide	
PEROXAN DC	Acetophenone, Methane, 2-Phenylisopropanol
Di-(2-tert-butyl-peroxyisopropyl)-benzene	
PEROXAN BIB-1 **PERGAPROP BIB-40 PP-G** **PERGAPROP BIB-20 PP-FN**	tert-Butanol, Methane, Acetone, Bis-(2-hydroxyisopropyl)-benzenes, 2-(3-Acetylphenyl)-2-propanol, 2-(4-Acetylphenyl)-2-propanol
2,5-Dimethyl-2,5-di-(tert-butylperoxy)-hexane	
PEROXAN HX **PEROXAN HX-80** **PEROXAN HX-80 W** **PEROXAN HX-50 W** **PERGAPROP HX-20 PP** **PERGAPROP HX-10 PP** **PERGAPROP HX-7,5 PP**	Acetone, Methane, tert-Amyl alcohol, tert-Butanol, Ethane
tert-Butylcumyl peroxide	
PEROXAN BU	Acetone, Methane, 2-Phenylisopropanol, tert-Butanol Acetophenone, Ethane

Chemical name / Trade name	Major decomposition products
Dilauroyl peroxide	
PEROXAN LP **PEROXAN LP-40 W**	Carbon dioxide, Docosane, Undecane, Undecyl dodecanoate
tert-Amyl peroxy-2-ethylhexanoate	
PEROXAN APO	Carbon dioxide, Methane, tert-Amyl alcohol, Heptane, Ethane, Acetone, 3-(1,1-Dimethylpropoxy)heptane
2,5-Dimethyl-2,5-di(tert-butylperoxy)hexyne-3	
PEROXAN HXY-85 W	Methane, 2,5-Dimethyl-3-hexyn-2,5-diol, Acetone, tert-Butanol
Di-tert-butyl peroxide	
PEROXAN DB **PEROXAN DB-50** **PEROXAN DB-50 W**	Acetone, Methane, tert-Butanol, Acetaldehyde, Isobutylene oxide
Di-isopropylbenzene-mono hydroperoxide	
PEROXAN IHP-50	Methane, 3-Isopropylacetophenone, 3-(2-Hydroxyisopropyl) isopropyl-benzene, Ethane
p-Menthan hydroperoxide	
PEROXAN PAM	Methane, Ethane, Acetone, Menthan alcohol, Isomers
Cumyl hydroperoxide	
PEROXAN CU-90 L **PEROXAN CU-80 L**	Acetophenone, 2-Phenylisopropanol, Methane, Ethane, Benzaldehyde, Phenol, Acetone
tert-Butyl hydroperoxide	
PEROXAN BHP-70 **PEROXAN BHP-10**	Methane, Acetone, tert-Butanol, Ethane

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