

SAFETY DATA SHEET**NOROX® AZOX****UNITED INITIATORS**
driving your success

Material no.		Version	2.0 / US
Specification	185444	Revision date	04/14/2015
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Solubility/qualitative no data available

Partition coefficient: n-octanol/water no data available

Autoignition temperature no data available

Thermal decomposition > 60 °C
Method: SADT (UN test H.4)
Rapid, exothermic reaction may occur above the Self Accelerated Decomposition Temperature (SADT).
SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction. This reaction will generate flammable vapors which may autoignite.

Viscosity, dynamic no data available

Viscosity, kinematic not determined

9.2. Other information

peroxides The substance or mixture is an organic peroxide classified as type D.

10. Stability and reactivity**10.1. Reactivity**

Stable under recommended storage conditions.

10.2. Chemical stability

Contact with incompatible substances can cause disintegration at or below SADT.

10.3. Possibility of hazardous reactions

Stability Stable under recommended storage conditions.

Possibility of hazardous reactions Vapors may form explosive mixtures with air.

10.4. Conditions to avoid

Keep away from heat and sources of ignition.

Exposure to sunlight.

Prolonged storage above 100°F (38°). Storage above SADT. Storage near flammable or combustible material.

10.5. Incompatible materials

Keep away from strong acids, bases, heavy metals, salts, reducing agents and accelerators.

Contaminants (e.g. rust, dust, ash). Combustible materials., Risk of decomposition.

Dimethylaniline, cobalt naphthenate and other promoters, accelerators, reducing agents, or any hot material.

10.6. Hazardous decomposition products

Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke)., Irritant, caustic, flammable, noxious/toxic gases and vapors can develop in the case of fire and decomposition., Acrid smoke and irritating fumes.

11. Toxicological information

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11.1. Information on toxicological effects*No toxicological studies are available on the mixture.*

carcinogenicity assessment

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Toxicological information on components**2,4-Pentanedione, peroxide**

Acute oral toxicity	LD50 Oral Rat(male and female): > 2000 mg/kg
Acute inhalation toxicity	Rat(male): 13.1 mg/l / 1 h
Acute dermal toxicity	LD50 Dermal Rat(male and female): >= 2000 mg/kg
Eye irritation	/ Causes serious eye irritation. irritating Irritating to eyes.
Sensitization	Sensitising May cause sensitisation by skin contact.
Repeated dose toxicity	Rat(male and female) NOEL: 100 mg/kg NOAEL: 300 mg/kg

Phlegmatizer

Acute oral toxicity	LD50 Rat: 3914 mg/kg RTECS
Acute inhalation toxicity	LC50 Rat: > 5.1 mg/l / 4 h
Acute dermal toxicity	LD50 Rabbit: 8000 mg/kg RTECS
Skin irritation	irritating
Eye irritation	Irritation to eyes, reversing after 7 to 21 days.
Repeated dose toxicity	Rat(male and female) / 90-day NOAEL: 3000 ppm
Assessment of STOT single exposure	Routes of exposure: inhalation (vapour) Target Organs: Nose Assessment: May cause respiratory irritation. May cause respiratory irritation.
Toxicity to reproduction	Two-generation study Rat(male/female) NOAEL (No Observed Adverse Effect Level) of parents: 350 mg/kg

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	NOAEL F1:	150 mg/kg
	May damage fertility or the unborn child.	
reproduction toxicity assessment	May damage fertility or the unborn child.	
Teratogenicity	Rat	
	NOAEL (No Observed Adverse Effect Level)	1000 mg/kg
	teratogenesis:	
	NOAEL maternal (No Observed Adverse Effect Level):	1000 mg/kg

CMR assessment

Toxicity to reproduction

May damage fertility or the unborn child.

2,4-Pentanedione

Acute oral toxicity

LD50 Oral Rat(male): 760 mg/kg

LD50 Oral Rat(female): 570 mg/kg

Acute inhalation toxicity

LC50 Rat: 5.1 mg/l / 4 h

Acute dermal toxicity

LD50 Dermal Rat(female): 790 mg/kg

LD50 Dermal Rat(male): 1370 mg/kg

Skin irritation

slight irritation

Eye irritation

slight irritation

Repeated dose toxicity

Dermal Rat(male and female)

NOAEL: 244 mg/kg

LOAEL: 975 mg/kg

12. Ecological information**12.1. Toxicity**

Toxicity to fish

There is no data available for this product.

Toxicity in aquatic invertebrates

No data is available on the product itself.

Toxicity to algae

No data is available on the product itself.

12.2. Persistence and degradability

Biodegradability

no data available

12.3. Bioaccumulative potential

Bioaccumulation

no data available

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12.4. Mobility in soil

Mobility No data available

12.5. Other adverse effects

Further Information Avoid release to the environment.

13. Disposal considerations**13.1. Waste treatment methods****Product**

Waste must be disposed of in accordance with federal, state and local regulations. Incineration is the preferred method of disposal. Contact United Initiators for additional information. Empty containers must be handled with care due to product residue. **DO NOT HEAT OR CUT THE EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH.**

Uncleaned packaging

Packaging material should be recycled or disposed of in accordance with federal, state and local regulations.

14. Transport information**D.O.T. Road/Rail**

- | | |
|---|---|
| 14.1. UN number: | UN 3105 |
| 14.2. UN proper shipping name: | Organic peroxide type D, liquid(Acetyl Acetone Peroxide, <=42%) |
| 14.3. Transport hazard class(es): | 5.2 |
| 14.4. Packing group: | II |
| 14.5. Environmental hazards (Marine pollutant): | -- |
| 14.6. Special precautions for user: | No |

Air transport ICAO-TI/IATA-DGR

- | | |
|-------------------------------------|---|
| 14.1. UN number: | UN 3105 |
| 14.2. UN proper shipping name: | Organic peroxide type D, liquid(Acetyl Acetone Peroxide, <=42%) |
| 14.3. Transport hazard class(es): | 5.2 |
| 14.4. Packing group: | -- |
| 14.5. Environmental hazards: | -- |
| 14.6. Special precautions for user: | Yes |
- IATA-C: ERG-Code 5L
Must be protected from direct sunlight and stored away from all sources of heat in a well-ventilated area.
- IATA-P: ERG-Code 5L
Must be protected from direct sunlight and stored away from all sources of heat in a well-ventilated area.

Sea transport IMDG-Code/GGVSee (Germany)

- | | |
|--------------------------------|---|
| 14.1. UN number: | UN 3105 |
| 14.2. UN proper shipping name: | ORGANIC PEROXIDE TYPE D, LIQUID(Acetyl Acetone Peroxide, <=42%) |

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- 14.3. Transport hazard class(es): 5.2
14.4. Packing group: --
14.5. Environmental hazards (Marine pollutant): --
14.6. Special precautions for user: Yes
EmS: F-J,S-R
"Separated from" acids and alkalis.
Protected from sources of heat.
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: for transport approval see regulatory information

15. Regulatory information**US Federal Regulations****OSHA**

If listed below, chemical specific standards apply to the product or components:

- None listed

Clean Air Act Section (112)

If listed below, components present at or above the de minimus level are hazardous air pollutants:

- None listed

CERCLA Reportable Quantities

If listed below, a reportable quantity (RQ) applies to the product based on the percent of the named component:

- None listed

SARA Title III Section 311/312 Hazard Categories

The product meets the criteria only for the listed hazard classes:

- Acute Health Hazard
- Chronic Health Hazard
- Fire Hazard

SARA Title III Section 313 Reportable Substances

If listed below, components are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

- Phlegmatizer

Toxic Substances Control Act (TSCA)

If listed below, non-proprietary substances are subject to export notification under Section 12 (b) of TSCA:

||• 2,4-Pentanedione
CAS-No. 123-54-6

One-Time Export Notification only.

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State Regulations**California Proposition 65**

A warning under the California Drinking Water Act is required only if listed below:

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

- Phlegmatizer

International Chemical Inventory Status

Unless otherwise noted, this product is in compliance with the inventory listing of the countries shown below. For information on listing for countries not shown, contact the Product Regulatory Services Department.

Europe (EINECS/ELINCS)	listed/registered
USA (TSCA)	listed/registered
Canada (DSL)	listed/registered
Australia (AICS)	listed/registered
Japan (MITI)	listed/registered
Philippines (PICCS)	listed/registered
China	listed/registered
Korea	listed/registered
New Zealand	not listed/registered

An employer using HMIS/NFPA labeling must through training ensure that its employees are fully aware of the hazards of the chemicals used.

HMIS Ratings

Health :	2*
Flammability :	1
Physical Hazard :	1

NFPA Ratings

Health :	2
Flammability :	1
Reactivity :	1

16. Other information**Further information**

Revision date 04/14/2015

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

COMPOSITE
ENVISIONS



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Legend

ACC	American Chemistry Council
ACGIH	American Conference of Governmental Industrial Hygienists
ACS	Advisory Committee on Sustainability
ADI	Acceptable Daily Intake
ASTM	American Society for Testing and Materials
ATP	Adaptation to Technical Progress
BCF	Bioconcentration factor
BOD	Biochemical oxygen demand
c.c.	closed cup
CAO	Cargo Aircraft Only
Carc	Carcinogen
CAS	Chemical Abstract Services
CDN	Canada
CEPA	Canadian Environmental Protection Act
CERCLA	Comprehensive Environmental Response – Compensation and Liability Act
CFR	Code of Federal Regulations
CMR	carcinogenic-mutagenic-toxic for reproduction
COD	Chemical oxygen demand
DIN	German Institute for Standardization
DMEL	Derived minimum effect level
DNEL	Derived no effect level
DOT	Department of Transportation
EC50	half maximal effective concentration
EPA	Environmental Protection Agency
ErC50	Reduction of Growth Rate
ERG	Emergency Response Guide Book
FDA	Food and Drug Administration
GHS	Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
GLP	Good Laboratory Practice
GMO	Genetic Modified Organism
HCS	Hazard Communication Standard
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO-TI	International Civil Aviation Organization- Technical Instructions
ICCA	International Council of Chemical Association
ID	Identification number
IMDG	International Maritime Dangerous Goods
IUPAC	International Union of Pure and Applied Chemistry
ISO	International Organization For Standardization
LC50	50 % Lethal Concentration
LD50	50 % Lethal Dose
L(E)C50	LC50 or EC50
LOAEL	Lowest observed adverse effect level
LOEL	Lowest observed effect level
MARPOL	International Convention for the Prevention of Pollution from Ships
NFPA	National Fire Protection Association
NOAEL	No observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
o. c.	open cup
OECD	Organisation for Economic Cooperation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PBT	Persistent, bioaccumulative, toxic
PEC	Predicted effect concentration
PNEC	Predicted no effect concentration
RQ	Reportable Quantity
SDS	Safety Data Sheet
STOT	Specific Target Organ Toxicity
UN	United Nations
vPvB	very persistent, very bioaccumulative
voc	volatile organic compounds

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WHMIS
WHOWorkplace Hazardous Materials Information System
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