

LANDA[®] MAX HEAT PART A

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)
Issue date: 11/12/2019 Revision date: 6/17/2025 Supersedes: 11/12/2019 Version: 2.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product code : LI01LAN

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Industrial use

1.3. Supplier

KARCHER NORTH AMERICA
6398 N Karcher Way
Aurora, 80239
United States
T 303-738-2400
info@karcher.com

1.4. Emergency telephone number

Emergency number : 800-535-5053
For Chemical Emergency Call INFOTRAC 24hr/day 7days/week
Within USA and Canada: 800-535-5053
Outside USA and Canada: 1-352-323-3500
(collect calls accepted)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Corrosive to metals, Category 1	H290	May be corrosive to metals.
Skin corrosion/irritation, Category 1	H314	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation, Category 1	H318	Causes serious eye damage.

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) : H290 - May be corrosive to metals
H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS US) : P234 - Keep only in original packaging.
P260 - Do not breathe dusts or mists.
P264 - Wash hands, forearms and face thoroughly after handling.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a poison center or doctor.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P363 - Take off immediately all contaminated clothing and wash it before reuse.
P390 - Absorb spillage to prevent material-damage.
P405 - Store locked up.
P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
SODIUM HYDROXIDE	CAS-No.: 1310-73-2	45

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : Causes severe skin burns. Causes serious eye damage.
Symptoms/effects after inhalation : EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. FOLLOWING SYMPTOMS MAY APPEAR LATER: Possible laryngeal spasm/oedema. Risk of lung oedema. Respiratory difficulties.
Symptoms/effects after skin contact : Burns.
Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : Burns.
Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract.

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4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : DIRECT FIRE HAZARD: Non combustible. INDIRECT FIRE HAZARD: Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard : INDIRECT EXPLOSION HAZARD: Reactions with explosion hazards: see "Reactivity Hazard".
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Face shield. Corrosion-proof suit. Large spills/in enclosed spaces: compressed air apparatus. Large spills/in enclosed spaces: gas-tight suit.
Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.
Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	: Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling	: Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray. Wear personal protective equipment.
Hygiene measures	: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Keep in a cool, well-ventilated place away from heat.
Storage conditions	: Store in corrosive resistant container with a resistant inner liner. Keep only in original container. Store locked up.
Incompatible materials	: Metals.
Storage temperature	: > 15 °C
Heat-ignition	: KEEP SUBSTANCE AWAY FROM: heat sources.
Information on mixed storage	: KEEP SUBSTANCE AWAY FROM: combustible materials. (strong) acids. metals.
Storage area	: Store in a dry area. Keep container in a well-ventilated place. Keep locked up. Protect against frost. Provide for a tub to collect spills. Unauthorized persons are not admitted. Meet the legal requirements.
Special rules on packaging	: SPECIAL REQUIREMENTS: hermetical. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	: Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

USA - ACGIH - Occupational Exposure Limits

Local name	Sodium hydroxide
ACGIH OEL C	2 mg/m ³
Remark (ACGIH)	TLV® Basis: URT, eye, & skin irr
Regulatory reference	ACGIH 2019

USA - OSHA - Occupational Exposure Limits

Local name	Sodium hydroxide
OSHA PEL TWA	2 mg/m ³
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

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No additional information available

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL C	2 mg/m ³
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8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

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8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Materials for protective clothing:

Excellent resistance: Nitrile rubber. Less resistance: Chlorinated polyethylene. Styrene-butadiene rubber. Nitrile rubber/PVC. Poor resistance: Polyvinylalcohol (PVA). natural fibres

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: Colourless
Odor	: Odourless
Odor threshold	: No data available
pH	: > 12
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: 143 °C
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Not applicable.
Vapor pressure	: 1.2 hPa (20 °C)
Relative vapor density at 20°C	: No data available
Relative density	: 1.5
Density	: 1525 kg/m³
Molecular mass	: 40 g/mol
Solubility	: Exothermically soluble in water. Soluble in ethanol. Soluble in methanol. Soluble in glycerol. Water: complete
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: 51.803 mm²/s
Viscosity, dynamic	: 79 mPa·s (20 °C)

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Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

VOC content	: Not applicable (inorganic)
Other properties	: Clear. Hygroscopic. Slightly volatile. Basic reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

May be corrosive to metals. Absorbs the atmospheric CO₂. Violent exothermic reaction with (some) acids. Violent exothermic reaction with water (moisture): (increased) risk of fire.

10.2. Chemical stability

Stable under normal conditions. Absorbs the atmospheric CO₂. Hygroscopic.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

metals.

10.6. Hazardous decomposition products

Reacts with (some) metals: release of highly flammable gases/vapours (hydrogen). On heating: release of corrosive gases/vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: No data available
Acute toxicity (dermal)	: No data available
Acute toxicity (inhalation)	: No data available
Skin corrosion/irritation	: Causes severe skin burns. pH: > 12
Serious eye damage/irritation	: Causes serious eye damage. pH: > 12
Respiratory or skin sensitization	: No data available
Germ cell mutagenicity	: No data available
Carcinogenicity	: No data available
Reproductive toxicity	: No data available
STOT-single exposure	: No data available
STOT-repeated exposure	: No data available
Aspiration hazard	: No data available
Viscosity, kinematic	: 51.803 mm ² /s
Potential Adverse human health effects and symptoms	: Causes severe skin burns. Causes serious eye damage.

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Symptoms/effects after inhalation	: EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. FOLLOWING SYMPTOMS MAY APPEAR LATER: Possible laryngeal spasm/oedema. Risk of lung oedema. Respiratory difficulties.
Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Before neutralisation, the product may represent a danger to aquatic organisms.
Ecology - air	: None of the known components is included in the list of substances which may contribute to the greenhouse effect (IPCC). None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Harmful to crustacea. Harmful to fishes. Contains ground water contaminating component(s). pH shift.

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EC50 - Crustacea [1]	40.4 mg/l Test organisms (species): Ceriodaphnia sp.
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LC50 - Fish [1]	45.4 mg/l (96 h, Salmo gairdneri, Static system, Fresh water, Experimental value, Solution >=50%)
EC50 - Crustacea [1]	40.4 mg/l (48 h, Ceriodaphnia sp., Experimental value, Nominal concentration)

12.2. Persistence and degradability

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Persistence and degradability	Biodegradability: not applicable.
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SODIUM HYDROXIDE1310-73-2

Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

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Bioaccumulative potential	Does not contain bioaccumulative component(s).
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Bioaccumulative potential	Not bioaccumulative.
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12.4. Mobility in soil

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Ecology - soil	No (test)data on mobility of the component(s) available.
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Ecology - soil

No (test)data on mobility of the substance available.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

SECTION 14: Transport information

14.1. UN number

UN-No. (DOT)	: UN1760
UN-No. (TDG)	: UN1760
UN-No. (IMDG)	: 1760
UN-No. (IATA)	: 1760

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Corrosive liquids, n.o.s.
Proper Shipping Name (TDG)	: CORROSIVE LIQUID, N.O.S.
Proper Shipping Name (IMDG)	: CORROSIVE LIQUID, N.O.S.
Proper Shipping Name (IATA)	: Corrosive liquid, n.o.s.

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT)	: 8
Hazard labels (DOT)	: 8



TDG

Transport hazard class(es) (TDG)	: 8
Hazard labels (TDG)	: 8



IMDG

Transport hazard class(es) (IMDG)	: 8
Hazard labels (IMDG)	: 8

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IATA

Transport hazard class(es) (IATA) : 8

Hazard labels (IATA) : 8



14.4. Packing group

Packing group (DOT) : I

Packing group (TDG) : I

Packing group (IMDG) : I

Packing group (IATA) : I

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No. (DOT) : UN1760

DOT Special Provisions (49 CFR 172.102) : A7 - Steel packaging must be corrosion-resistant or have protection against corrosion.
B10 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks, and DOT 57 portable tanks are not authorized.
T14 - 6 mm Prohibited 178.275(g)(3).

TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: t_r is the maximum mean bulk temperature during transport, t_f is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (t_f) and the maximum mean bulk temperature during transportation (t_r) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d_{15} and d_{50} are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.

TP27 - A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Non Bulk (49 CFR 173.xxx) : 201

DOT Packaging Bulk (49 CFR 173.xxx) : 243

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 0.5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 2.5 L

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

TDG

UN-No. (TDG) : UN1760

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TDG Special Provisions	: 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the danger or dangers posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S; (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S; (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S; (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or (e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS.
ERAP Index	: 3000
Explosive Limit and Limited Quantity Index	: 0
Excepted quantities (TDG)	: E0
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: 0.5 L
Emergency Response Guide (ERG) Number	: 154

IMDG

Transport regulations (IMDG)	: Subject to the provisions
Special provision (IMDG)	: 274
Limited quantities (IMDG)	: 0
Excepted quantities (IMDG)	: E0
Packing instructions (IMDG)	: P001
Tank instructions (IMDG)	: T14
Tank special provisions (IMDG)	: TP2, TP27
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES
Stowage category (IMDG)	: B
Properties and observations (IMDG)	: Causes burns to skin, eyes and mucous membranes.

IATA

Transport regulations (IATA)	: Subject to the provisions
PCA Excepted quantities (IATA)	: E0
PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: 850
PCA max net quantity (IATA)	: 0.5L
CAO packing instructions (IATA)	: 854
CAO max net quantity (IATA)	: 2.5L
Special provision (IATA)	: A3, A803
ERG code (IATA)	: 8L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

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SECTION 15: Regulatory information

15.1. US Federal regulations

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Not subject to reporting requirements of the United States SARA Section 313

CERCLA RQ

1000 lb

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

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CERCLA RQ

1000 lb

15.2. International regulations

CANADA

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Listed on the Canadian DSL (Domestic Substances List)

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Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

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Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

No additional information available

SECTION 16: Other information

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

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Full text of hazard classes and H-statements

H290 May be corrosive to metals

H314 Causes severe skin burns and eye damage

H318 Causes serious eye damage

NFPA health hazard

: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard

: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

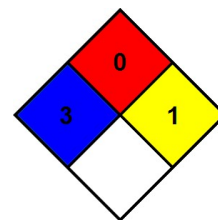
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NFPA reactivity

: 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.