



Safety Data Sheet according to GB/T 16483-2008

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LOCTITE FREKOTE 770-NC DR1GAL EN

SDS No. : 153835

V001.12

Revision: 22.07.2022

printing date: 20.06.2023

1. Identification of the substance/preparation and of the company/undertaking

Product name: LOCTITE FREKOTE 770-NC DR1GAL EN

Intended use: Mold Release

Manufacturer/Importer/Distributor Representative Company

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Revision date: 22.07.2022

Emergency information: +86 21 2891 8311 (24h).

2. Hazards identification

Classification of the substance or mixture according to GB 13690-2009 (General rule for classification and hazard communication of chemicals):

<u>Hazard Class</u>	<u>Hazard Category</u>
Flammable liquids	Category 2
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Skin sensitizer	Category 1
Aspiration hazard	Category 1
Acute hazards to the aquatic environment	Category 2
Chronic hazards to the aquatic environment	Category 2

Label elements according to GB 15258-2009 (General rules for preparation of precautionary label for chemicals):

Hazard pictogram:



Signal word: Danger

Hazard statement:	H225 Highly flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H411 Toxic to aquatic life with long lasting effects.
Prevention:	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof electrical/ventilating/lighting equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P264 Wash hands thoroughly after handling. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves, eye protection, and face protection.
Response:	P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P331 Do NOT induce vomiting. P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P337+P313 If eye irritation persists: Get medical advice/attention. P362+P364 Take off contaminated clothing and wash it before reuse. P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction. P391 Collect spillage.
Storage:	P403+P235 Store in a well-ventilated place. Keep cool. P405 Store locked up.
Disposal:	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

3. Composition / information on ingredients

General description: Mixture
Declaration of the ingredients according to GB 13690-2009:

Hazard component CAS-No.	Content	GHS Classification
Hydrocarbons, C7-C9, isoalkanes 1174921-67-5	90- <= 100 %	Flammable liquids 2 H225 Skin corrosion/irritation 2 H315 Aspiration hazard 1 H304 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 2 H411
Reaction product of tris(n-methylamino)methylsilane (TMAS) and silanol terminated polydimethylsiloxane (PDMS) 1432471-92-5	1- < 3 %	Flammable liquids 1 H224 Pyrophoric liquids 1 H250 Substances and mixtures, which on contact with water, emit flammable gases 1 H260 Acute toxicity 4; Inhalation H332 Skin corrosion/irritation 2 H315 Serious eye damage/eye irritation 1 H318 Skin sensitizer 1 H317 Specific target organ toxicity - single exposure 3 H335
2,2,4-trimethylpentane 540-84-1	0.1- < 0.25 %	Flammable liquids 2 H225 Skin corrosion/irritation 2 H315 Specific target organ toxicity - single exposure 3 H336 Aspiration hazard 1 H304 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 1 H410

Only hazardous ingredients for which a classification according to GB 13690-2009 is already available are displayed in this table. For full text of the Hazard statements see section 16 "Other information".

4. First aid measures

Skin contact:	Rinse with running water and soap. Apply replenishing cream. Change all contaminated clothing. If necessary, see a dermatologist.
Eye contact:	Rinse immediately with plenty of running water (for 10 minutes). Seek medical attention if necessary.
Inhalation:	Move to fresh air, consult doctor if complaint persists.
Ingestion:	Rinse mouth, do not induce vomiting, consult a doctor.

5. Fire fighting measures

- Hazardous combustion products:** See section 10.
- Extinguishing media:** Carbon dioxide, foam, powder
Water spray jet
- Fire-fighting method:** Cool endangered containers with water spray jet.
- Notice and measures for firing fighting:** Can form explosive gas/air mixtures.
Explosive bursting of containers is possible.
Wear self-contained breathing apparatus.
Keep personnel upwind of fire.

6. Accidental release measures

- Emergency measures:** Keep away from sources of ignition and naked flames.
Ensure adequate ventilation.
Do not empty into drains / surface water / ground water.
Keep unprotected persons away.
Collect contaminated washing water for appropriate disposal.
Wear protective equipment.
Inform authorities in the event of product spillage to water courses or sewage systems.
See advice in section 8
- Clean-up methods:** Remove mechanically.
Remove with liquid-absorbing material (sand, peat, sawdust).
For small spills wipe up with paper towel and place in container for disposal.
For large spills absorb onto inert absorbent material and place in sealed container for disposal.
Dispose of contaminated material as waste according to Section 13.

7. Handling and storage

- Notice for handling:** Ventilate working rooms thoroughly. Avoid naked flames, sparking and sources of ignition. Switch off electrical devices. Do not smoke, do not weld. Do not empty waste into waste water drains.
In case of fire, cool container with jet of water.
Do not spray onto flames or red-hot objects.
Take measures to prevent the build-up of electrostatic charges.
Avoid skin and eye contact.
See advice in section 8
- Notice for storage:** Refer to Technical Data Sheet

8. Exposure controls / personal protection

Hazardous components	GBZ 2.1-2019	ACGIH	NIOSH	OSHA
2,2,4-trimethylpentane	500 mg/m ³ PC-TWA 500 mg/m ³ PC-TWA	300 ppm TWA 300 ppm TWA		none

- Engineering controls:** Ventilate working rooms thoroughly. Avoid naked flames, sparking and sources of ignition. Switch off electrical devices. Do not smoke, do not weld. Do not empty waste into waste water drains.

Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment. Suitable respiratory protection: Use filter A-P2 if vapours/aerosols occur which may be inhaled.
Eye protection:	Protective goggles and/or protective shield
Body protection:	Wear protective equipment. Suitable protective clothing apron protective boots
Hand protection:	Chemical-resistant protective gloves (EN 374). Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374): nitrile rubber (NBR; ≥ 0.4 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): nitrile rubber (NBR; ≥ 0.4 mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.
Other protection:	The selection of PPE shall at least compliant with "Law of the People's Republic of China on Prevention and Control of Occupational Diseases" and "Code of practice for selection of personal protective equipments" (GB/T 11651-2008). Wash hands before work breaks and after finishing work. Do not eat, drink or smoke while working.

9. Physical and chemical properties

Physical state:	liquid	Appearance:	Clear, Colorless
Evaporation rate:	Not available.	Odor:	Mild, Solvent
pH:	Not available. Product is non-polar/aprotic.	Melting point:	Not determined
Boiling point:	> 112 °C (> 233.6 °F)	Density:	0.72 g/cm ³
Vapor density:	3.9 Approximately, (Air = 1)	Vapor pressure:	Not available.
Flash point:	7 °C (44.6 °F)	Ignition temperature:	> 284 °C (> 543.2 °F)
Lower explosive limit:	Not available.	Upper explosive limit:	Not available.
Solubility in water	Not available.	Viscosity:	Not available. 0.72 mm ² /s
Auto-ignition temperature:	Not available.	Flammability:	Not available.
Octanol / water distribution coefficient:	Not available.	Decomposition temperature:	Not available.
VOC:	, Out of China VOC standards Scope		

10. Stability and reactivity

Conditions to avoid:	Vapours may form explosive mixture with air. Spray mist may be flammable at temperatures below the flash point. Heat, flames, sparks and other sources of ignition. No decomposition if stored and applied as directed.
Incompatible products:	Reaction with strong oxidants. Water

Decomposition products: Hydrocarbons
Irritating organic vapours.
carbon oxides.

Hazardous polymerization: Will not occur.

11. Toxicological information

General toxicological information:
No laboratory animal data available.

Inhalative toxicity:
Acute toxicity estimate (ATE) : > 40 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Carcinogenicity

No data available.

Other remarks:
Not available.

Acute toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Hydrocarbons, C7-C9, isoalkanes 1174921-67-5	LD50 LC50 LD50	> 7,100 mg/kg > 9.4 mg/l > 2,200 mg/kg	oral inhalation dermal	4 h	rat rat rabbit	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) OECD Guideline 403 (Acute Inhalation Toxicity) not specified
2,2,4-trimethylpentane 540-84-1	LD50 LC50 LD50	> 5,000 mg/kg > 33.52 mg/l > 2,000 mg/kg	oral inhalation dermal	4 h	rat rat rabbit	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity) equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Hydrocarbons, C7-C9, isoalkanes 1174921-67-5	irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Hydrocarbons, C7-C9, isoalkanes 1174921-67-5	not irritating		rabbit	EPA OPPTS 870.2400 (Acute Eye Irritation)

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
Hydrocarbons, C7-C9, isoalkanes 1174921-67-5	not sensitising	Guinea pig maximisation test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Hydrocarbons, C7-C9, isoalkanes 1174921-67-5	negative negative negative	bacterial reverse mutation assay (e.g Ames test) in vitro mammalian chromosome aberration test mammalian cell gene mutation assay	with and without without with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay) equivalent or similar to OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Hydrocarbons, C7-C9, isoalkanes 1174921-67-5	negative	inhalation		rat	equivalent or similar to OECD Guideline 478 (Genetic Toxicology: Rodent Dominant Lethal Test)

Repeated dose toxicity:

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
Hydrocarbons, C7-C9, isoalkanes 1174921-67-5		inhalation: vapour	12 weeks 6 hours/day, 5 days/week	rat	equivalent or similar to OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)

12. Ecological information**General ecological information:**

Do not empty into drains / surface water / ground water.

Ecotoxicity:

No data available.

Other adverse effects:
Not available.

Toxicity:

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Hydrocarbons, C7-C9, isoalkanes 1174921-67-5	LC50	18.4 mg/l	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Hydrocarbons, C7-C9, isoalkanes 1174921-67-5	EL50	2.4 mg/l	Daphnia	48 h	Daphnia magna	other guideline:
Hydrocarbons, C7-C9, isoalkanes 1174921-67-5	EL50	10 - 30 mg/l	Algae	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Hydrocarbons, C7-C9, isoalkanes 1174921-67-5	NOELR	10 mg/l	Algae	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,2,4-trimethylpentane 540-84-1	LC50	0.11 mg/l	Fish	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	OECD Guideline 203 (Fish, Acute Toxicity Test)
2,2,4-trimethylpentane 540-84-1	EC50	0.4 mg/l	Daphnia	48 h	Daphnia magna	other guideline:
2,2,4-trimethylpentane 540-84-1	EC0	10,000 mg/l	Bacteria		not specified	not specified

Persistence and degradability:

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Hydrocarbons, C7-C9, isoalkanes 1174921-67-5	inherently biodegradable	aerobic	22.4 %	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
2,2,4-trimethylpentane 540-84-1	not readily biodegradable.	aerobic	> 0 - 60 %	OECD 301 A - F

Bioaccumulative potential / Mobility in soil:

Hazardous components CAS-No.	LogPow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
2,2,4-trimethylpentane 540-84-1	4.5					not specified

13. Disposal considerations

Product disposal: Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages: After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.

14. Transport information

Road transport CN_DG:

Class: 3
Packing group: II
Classification code:
Hazard ident. number:
UN no.: 1866
Label: 3
Technical name: RESIN SOLUTION

Marine transport IMDG:

Class:	3
Packing group:	II
UN no.:	1866
Label:	3
EmS:	F-E ,S-E
Seawater pollutant:	Marine pollutant
Proper shipping name:	RESIN SOLUTION (Isoalkane C7 - C10)

Air transport IATA:

Class:	3
Packing group:	II
Packaging instructions (passenger):	353
Packaging instructions (cargo):	364
UN no.:	1866
Label:	3
Proper shipping name:	Resin solution

Notice For Transportation:

Transport according to local and national regulations. Ensure containers will not leak, collapse, or being damaged when transported. DO NOT transport with incompatible materials. Transportation vehicle should be equipped with right fire-fighting equipment in case of emergency. Avoid solarization, drenched and high temperature when transported.

15. Regulatory information

The following laws and regulations lay down provisions in terms of chemicals safety use, storage, transportation, loading/unloading, classification as well as symbol.

“Law of the People's Republic of China on Work Safety” (Adopted by the 28th meeting of 9th NPC standing committee on 29th June 2002, revised by 29th meeting of 13nd NPC standing committee on 10th Jun 2021).

Law of the People's Republic of China on the Prevention and Treatment of Occupational Diseases” (Adopted by the 24th meeting of 9th NPC standing committee on 27th October 2001, revised by 7th meeting of 13rd NPC standing committee on 29th Dec 2018).

“Law of the People's Republic of China on environmental protection” (Adopted by 11st meeting of 7th NPC standing committee on 26th December 1989, revised by 8th meeting of 12nd NPC standing committee on 24th Apr 2014).

“Regulation on the Safety Management of Hazardous Chemicals” (Adopted by 32nd State Council executive meeting on 4th December 2013).

“Regulations on License to Work Safety” (Adopted by 54th State Council executive meeting on 29th July 2014).

16. Other information

Issue date:	20.06.2023
Issue department:	Product Safety & Regulatory Affairs for China

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Others:

The full text of all abbreviations indicated by codes in this safety data sheet section 3 are as follows:

H224 Extremely flammable liquid and vapour.
H225 Highly flammable liquid and vapour.
H250 Catches fire spontaneously if exposed to air.
H260 In contact with water releases flammable gases which may ignite spontaneously.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H400 Very toxic to aquatic life.
H401 Toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.