

SAFETY DATA SHEET

According to Regulation (EG) Nr. 1907/2006 (REACH)

Revision Date: 06.08.2024

Print Date: 15.07.2024

Version: 1

Polaris 13C Pyruvate

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifiers

Product name:

Polaris 13C Pyruvate

Reach Number:

A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline

CAS Number:

3047543-25-6

Brand

NVision Imaging Technologies GmbH

1.2. Relevant identified uses of the substance or mixture and uses advised against:

Identified uses

Laboratory chemicals

1.3. Details of the supplier of the safety data sheet

Supplier:

NVision Imaging Technologies GmbH

Wolfgang-Paul-Straße 2

89081 Ulm

Telephone: +49 (0) 731-1411 0710

E-Mail: info@nvision-imaging.com

Webseite: www.nvision-imaging.com

E-Mail address: info@nvision-imaging.com

1.4. Emergency telephone

+49 (0) 731-1411 0710 (This number is only manned during office hours.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture according to Regulation (EC) No. 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
Skin corrosion/irritation (Skin Corr. 1B)	H314: Causes severe skin burns and eye damage.	Expert judgement and weight of evidence determination.
Skin sensitization (Skin Sens. 1B)	H317: May cause an allergic skin reaction	Expert judgement and weight of evidence determination.
Serious eye damage/eye irritation (Eye Dam. 1)	H318: Causes serious eye damage.	Expert judgement and weight of evidence determination.

2.2. Label Elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

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Hazard pictograms:



Signal word: Danger

Hazard components for labelling:

tert-Butyl 4-((2-oxopropanoyl-1-¹³C)oxy)but-2-ynoate-4,4-d₂

Hazard statements for health hazards

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.

Supplemental hazard information: none

Precautionary statements

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P353	Rinse skin with water or shower.

Special rules for supplemental label elements for certain mixtures:

none

Reduced Labelling (<= 125 ml)

Pictogram



Signal Word: Danger

Hazard statements for health hazards

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.

Supplemental hazard information: none

Precautionary statements

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P353	Rinse skin with water or shower.

2.3. Other hazards

Adverse physicochemical effects:

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No data available

Adverse human health effects and symptoms:

No data available

Adverse environmental effects:

No data available

Other adverse effects:

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No. 1272/2008 [CLP]	Concentration
Formulal: C ₁₀ ¹³ CH ₁₂ D ₂ O ₅ Molecular Weight: 229,23 g/mol CAS-Nr.: 3047543-25-6 EC-Nr.: 977-243-2	tert-Butyl 4-((2-oxopropanoyl-1-13C)oxy)but-2-yn oate-4,4-d2 Eye Dam. 1 (H318), Skin Corr. 1B (H314) Danger	>99 - <= 100 weight-%

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove victims out of the danger area.

Do not leave the affected person unattended. Warning First aider: Pay attention to self-protection!

If inhaled

Provide fresh air. In case of respiratory tract irritation, consult a physician.

In case of skin contact

After contact with skin, wash immediately with plenty of water and soap

If skin irritation or rash occurs: Get medical advice/attention

In case of eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist

If swallowed

Rinse mouth. Get medical advice/attention if you feel unwell

Self-protection of the first aider

Use personal protection equipment

4.2. Most important symptoms and effects, both acute and delayed

Skin corrosion/irritation Serious eye damage/eye irritation

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4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically

SECTION 5: Firefighting measures

5.2. Extinguishing media

Suitable extinguishing media:

Coordinate fire-fighting measures to the fire surroundings

5.2. Special hazards arising from the substance or mixture

The product itself does not burn

Hazardous combustion products:

No data available

5.3. Advice for firefighters

Coordinate fire-fighting measures to the fire surroundings

5.4. Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Personal precautions:

Remove persons to safety

Protective equipment:

Wear protective gloves/protective clothing/eye protection/face protection

6.1.2. For emergency responders

Personal protection equipment:

Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains

6.3. Methods and material for containment and cleaning up

For containment:

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up:

Water (with cleaning agent)

6.4. Reference to other sections

Safe handling: see section 7 Personal protection equipment: see section 8 Disposal: see section 13

6.5 .Additional information

Use appropriate container to avoid environmental contamination

SECTION 7: Handling and storage

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7.1. Precautions for safe handling

Protective measures

Advices on safe handling

Wear personal protection equipment (refer to section 8)

Fire prevent measures

No special measures are necessary

Advices on general occupational hygiene

When using do not eat, drink, smoke, sniff. Avoid contact with skin, eyes and clothes

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a cool, well-ventilated place

Storage class

Storage class (TRGS 510, Germany): 8B – Non-combustible corrosive substances

7.3. Specific end use(s)

No data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No data available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No data available

8.2.2. Personal protection equipment

Eye/face protection

Eye glasses with side protection

EN 166

Skin protection

Tested protective gloves must be worn EN ISO 374

Suitable material: Butyl caoutchouc (butyl rubber)

In the case of wanting to use the gloves again, clean them before taking off and air them well.

Breakthrough times and swelling properties of the material must be taken into consideration

Respiratory protection

Usually no personal respiratory protection necessary

8.2.3. Environmental exposure controls

No data available

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: liquid **Colour:** pale yellow

Odour: not determined **Odour threshold:** not determined

Safety relevant basis data

Parameter	Value	¹ Method ² Remark
pH	<i>No data available</i>	
Melting point	<i>No data available</i>	
Freezing point	<i>No data available</i>	
Initial boiling point and boiling range	<i>No data available</i>	
Flammability (solid, gas)	<i>No data available</i>	
Evaporation rate	<i>No data available</i>	
Flash point	<i>No data available</i>	
Autoignition temperature	<i>No data available</i>	
Decomposition temperature	<i>No data available</i>	
Upper/lower flammability or explosive limits	<i>No data available</i>	
Vapour pressure	<i>No data available</i>	
Relative vapour density	<i>No data available</i>	
Density	1.1 g/l at 25 °C	² experimental data
Water solubility	< 5 g/L at 25 °C	¹ saturated aqueous solution
Partition coefficient: n-octanol/water	<i>No data available</i>	
Viscosity, dynamic	<i>No data available</i>	
Viscosity, kinematic	<i>No data available</i>	
Particle characteristics	<i>No data available</i>	
Explosive properties	<i>No data available</i>	

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Oxidising properties	none	
9.2. Other safety information No data available		
SECTION 10: Stability and reactivity		
10.1. Reactivity This material is considered to be non-reactive under normal use conditions		
10.2.. Chemical stability The product is chemically stable under recommended conditions of storage, use and temperature		
10.3. Possibility of hazardous reactions No known hazardous reactions		
10.4. Conditions to avoid No data available		
10.5. Incompatible materials No data available		
10.6. Hazardous decomposition products No data available		
SECTION 11: Toxicological information		
11.1. Information on hazard classes as defined in Regulation (EC) No. 1272/2008		
Acute oral toxicity No data available No classification		
Acute dermal toxicity No data available No classification		
Acute inhalation toxicity No data available No classification		
Skin corrosion/irritation Causes severe skin burns and eye damage. By analogy.: Assembly structure : Ethyl pyruvate: CAS 617-35-6 2-Butynoic acid: CAS 590-93-2 1,1-Dimethoxyacetone: CAS 6342-56-9 Pyruvic acid: CAS 127-17-3		
Serious eye damage/irritation Causes serious eye damage.		

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By analogy.: Assembly structure :

Ethyl pyruvate: CAS 617-35-6

2-Butynoic acid: CAS 590-93-2

1,1-Dimethoxyacetone: CAS 6342-56-9

Pyruvic acid: CAS 127-17-3

Respiratory or skin sensitisation

Skin sensitisation : No data available

Quantitative structure-activity relationship (QSAR) : sensitising

Conclusive but not sufficient for classification

Germ cell mutagenicity

No data available

Quantitative structure-activity relationship (QSAR) : negative

Carcinogenicity

No data available

Quantitative structure-activity relationship (QSAR) : negative

Reproductive toxicity

No data available

Quantitative structure-activity relationship (QSAR) : negative

STOT-single exposure

No data available

STOT-repeated exposure

No data available

Aspiration hazard

Based on available data, the classification criteria are not met

Additional information

No data available

11.2. Information on other hazards

Endocrine disrupting properties:

No data available

Quantitative structure-activity relationship (QSAR) : negative

SECTION 12: Ecological information

12.1. Toxicity

Assessment/classification

Quantitative structure-activity relationship (QSAR) :

Based on available data, the classification criteria are not met

12.2. Persistence and degradability

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Biodegradation: Yes, rapidly

Remark: QSAR

Additional information

EpiSuite QSAR tool

12.3. Bioaccumulative potential

Log KOW: 0.21

Accumulation / Evaluation:

EpiSuite QSAR tool

12.4. Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII

12.6. Endocrine disrupting properties

No data available

Quantitative structure-activity relationship (QSAR) : negative

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product

16 03 05 * organic wastes containing hazardous substances

18 02 05 * Chemicals consisting of or containing hazardous substances

*: Evidence for disposal must be provided.

Waste treatment options

Appropriate disposal / Product:

Consult the appropriate local waste disposal expert about waste disposal.

SECTION 14: Transport information

Land transport (ADR/RID)

Sea transport (IMDG)

Air transport (ICAO-TI / IATA-DGR)

14.1. UN number

1760

1760

1760

14.2. UN proper shipping name

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CORROSIVE LIQUID, N.O.S. (Pyruvate ester)	CORROSIVE LIQUID, N.O.S. (Pyruvate ester)	CORROSIVE LIQUID, N.O.S. (Pyruvate ester)
14.3. Transport hazard class(es)		
8	8	8
14.4. Packaging group		
II	II	II
14.5. Environmental hazards		
no	no	no
14.6. Special precautions for user		
Special Provisions: 274 Limited quantity (LQ): 1 L Excepted Quantities (EQ): E2 Hazard identification number (Kemler No.): 80 Classification code: C9 Tunnel restriction code: E	Special Provisions: 274 Limited quantity (LQ): 1 L Excepted Quantities (EQ): E2 EmS-No.: F-A, S-B	Special Provisions: A3 Limited quantity (LQ): Y840 Excepted Quantities (EQ): E2
14.7. Maritime transport in bulk according to IMO instruments No data available		
SECTION 15: Regulatory information		
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture		
15.1.1. EU legislation No data available		
15.1.2. National regulations [DE] National regulations Water hazard class WGK: 2 - obviously hazardous to water Source: Self-classification according to AwSV (substance)		
15.2. Chemical Safety Assessment For this substance a chemical safety assessment is not required		

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SECTION 16: Other information

16.1. Full text of H-Statements

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

16.2. Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

16.3. Further information

The information provided in this Safety Data Sheet is based on the best available knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product, and is believed to be correct as of the date of its publication. It must not be construed as a guarantee of any properties of the product. Users are responsible for determining the suitability of this information for their particular purposes and for complying with all applicable laws and regulations concerning the handling, use, storage, and disposal of the product. No warranty, express or implied, is made. NVision Imaging Technologies GmbH disclaims any liability for damage resulting from handling, or from contact with, the above product, or from the use or misuse of this information.

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