HELLA PAGID
BRAKE SYSTEMS

Section 1: Identification of the substance / mixture and of the company / undertaking.

1.1 Product Identifier:
Trade Name: HELLA PAGID Brake Cleaner
Material number: 8DX 355 370-001 (355.370-001, 95001), 8DX 355 370-021 (355.370-001, 95021)

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified Uses: Brake Cleaner to be used to clean brake disc and brake caliper from dust/dirt.

1.3 Details of the supplier of the MSDS:
HELLA PAGID GmbH
Lüschershofstr. 80, 45356 Essen / Germany
www.hella-pagid.com
Phone: +49 (0) 201 217600 30
E-mail: service@hella-pagid.com
Department issuing data sheet: Productmanagement, Contact Person: Mr. Gorkow, Tel. +49 (0) 201 217600 24

1.4 Emergency Telephone Number:
Informationszentrale gegen Vergiftungen,
Universitätsklinikum Bonn
Adenauerallee 119, D-53113 Bonn
Tel: +49 (0)228-19240

Section 2: Hazards identification

2.1 Classification of the substance or mixture:
Indications of danger:
- F+ – Extremely flammable
- Xi – Irritant
- N – Dangerous for the environment

R phrases:
- Extremely flammable
- Irritating to skin
- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
- Vapours may cause drowsiness and dizziness .

GHS classification

Hazard categories:

- Flammable aerosol: Flam. Aerosol 1
- Skin corrosion/irritation: Skin Irrit. 2
- Reproductive toxicity: Repr. 2
- Specific target organ toxicity – single exposure: STOT SE 3
- Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:

- Extremely flammable aerosol. Causes skin irritation.
- May cause drowsiness or dizziness.
- Toxic to aquatic life with long lasting effects .

2.2 Label Elements:

Signal word:
Danger

Pictograms:
GHS02-GHS07-GHS09

Hazard phrases:

- H222 – Extremely flammable aerosol.
- H315 – Causes skin irritation.
- H336 – May cause drowsiness or dizziness.
- H411 – Toxic to aquatic life with long lasting effects .

Precautionary phrases recommended:

- P102 – Keep out of reach of children.
- P210 – Keep away from heat/sparks/open flames/hot surfaces – No smoking.
- P211 – Do not spray on an open flame or other ignition source.
- P251 – Pressurized container: Do not pierce or burn, even after use.
- P261 – Avoid breathing Aerosol.
- P271 – Use only outdoors or in a well-ventilated area.
- P273 – Avoid release to the environment .
- P280 – Wear protective gloves/protective clothing/eye protection/face protection.
- P302+P352 – IF ON SKIN: Wash with plenty of soap and water .
- P410+P412 – Protect from sunlight. Do no expose to temperatures exceeding 50° C/122 ° F.

2.3 Other Hazards:

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

Section 3: Composition / information on ingredients

3.2 Mixtures:

Hazardous components:

EC No	Chemical name	Quantity
CAS No	Classification	
Index No	GHS classification	
REACH No		
921-024-6	Hydrocarbons, C6-C7, n-alkanes, isoalkanes cyclic	90 – 95 %
64742-49-0	F – Highly flammable, Xn – Harmful, Xi – Irritant, N – Dangerous for the environment R11-38-51-53-65-67	
	Flam. Liq. 2, Skin Irrit. 2, Asp. Tox. 1, STOT SE 3, Aquatic Chronic 2; H225 H315 H304 H336 H411	
01-2119475514-35		
203-777-6	n-hexane	1 – 5 %
110-54-3	F – Highly flammable, Repr. Cat. 3, Xn – Harmful, Xi – Irritant, N – Dangerous for the environment R11-62-48/20-65-38-67-51-53	
601-037-00-0	Flam. Liq. 2, Repr. 2, Asp. Tox. 1, STOT RE 2, Skin Irrit. 2, STOT SE 3, Aquatic Chronic 2; H225 H361f *** H304 H373 ** H315 H336 H411	
204-696-9	carbon dioxide	1 – 5 %
124-38-9		

Full text of R and H phrases: see Section 16.

Further Information:
Regulation (EC) No 648/2004 (Detergents regulation)
30 % and more, aliphatic hydrocarbons

Section 4: First aid measures

4.1 Description of first aid measures:
General information
Never give anything by mouth to an unconscious person or a person with cramps. Guide people to safety.
After inhalation
Provide fresh air. In case of accident or if you feel unwell, seek medical advice immediately (show safety data sheet if possible).
After contact with skin
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation occurs: Get medical advice/attention.
After contact with eyes
Rinse immediately carefully and thoroughly with eye-bath or water.
After ingestion
Rinse mouth immediately and drink large quantities of water. Caution if victim vomits: Risk of aspiration!

4.2 Most important symptoms and effects, both acute and delayed:
Headache, nausea, dizziness, fatigue, skin irritation

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

Section 5: Fire fighting measures

5.1 Extinguishing media
Suitable extinguishing media
Carbon dioxide (CO2). Foam. Extinguishing powder.
Extinguishing media which must not be used for safety reasons
High power water jet.

5.2 Special hazards arising from the substance or mixture:
Combustible. Vapours may form explosive mixtures with air.

5.3 Advice for firefighters:
Wear a self-contained breathing apparatus and chemical resistant suit. Full protective suit.

Additional information:
Use water spray/stream to protect personnel and to cool endangered containers. Use a water spray jet to knock down vapours/gases/mists. 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:
Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray.
Avoid contact with skin, eye and clothing. Wear personal protection equipment.

6.2 Environmental precautions:
Do not allow uncontrolled leakage of product into the environment. Explosion hazard.

6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
Treat the assimilated material according to the section on waste disposal.

6.4 Reference to other sections:
Refer to chapter 8.

Section 7: Handling and storage.

7.1 Precautions for safe handling:
Advice on safe handling
In case of open handling equipment with built-in suction must be used. Do not breathe gas/fumes/vapour/spray.
Advice on protection against fire and explosion
Do not spray into flames or ignition sources. Keep away from sources of ignition – No smoking.
Take precautionary measures against static discharges. Vapours may form explosive mixtures with air.

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels
Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from sources of ignition – No smoking.
Advice on storage compatibility
Do not store together with: Material, rich in oxygen, oxidizing.
Further information on storage conditions
Protect from frost. Protect from direct sunlight.

7.3 Specific end use(s)
No information available.

Section 8: Exposure controls / personal protection

8.1. Control Parameters:

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
64742-49-0	Hydrocarbons, C6-C7, n-alkanes, isoalkanes cyclic		1500		TWA (8 h)	TRGS
					STEL (15 min)	TRGS
124-38-9	Carbon dioxide	5000	9150		TWA (8 h)	WEL
		15000	27400		STEL (15 min)	WEL
110-54-3	n-Hexane	20	72		TWA (8 h)	WEL
		–	–		STEL (15 min)	WEL

Additional advice on limit values:

a – no restriction
b – End of exposure or shift
c – in long-term exposure: after several shifts
d – prior to next shift
TWA (EC) – time-weighted average
U – Urea

8.2 Exposure controls:

Occupational exposure controls

In case of open handling equipment with built-in suction must be used. Do not breathe gas/fumes/vapour/spray.

Protective and hygiene measures

Take off immediately all contaminated clothing. Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat or drink.

Respiratory protection

Wear respiratory protection when in the presence of vapour , dust, and aerosols. Suitable respiratory protective equipment: Combination filter device (DIN EN 141). Filter respirator with filter or ventilator type: A

Hand protection

Suitable material: NBR (Nitrile rubber). penetration time (maximum wearing period): 480 min

Thickness of glove material: 0,45 mm

Eye protection

Suitable eye protection: Tightly sealed safety glasses.

Skin protection

No special precautionary measures are necessary.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Physical state: Aerosol

Colour: colourless

Odour: solvent like

Test method

pH-Value (at 20 °C): . . . . . not applicable

Changes in the physical state

Melting point: . . . . . No information available.
Boiling point: . . . . . 88 °C
Sublimation point: . . . . . No information available.
Softening point: . . . . . No information available.
Flash point: . . . . . -12 °C
Lower explosion limits: . . . . . 1 vol. %
Upper explosion limits:. . . . . 8 vol. %
Ignition temperature: . . . . . 270 °C
Vapour pressure:. . . . . No information available.

Vapour pressure:. . . . . No information available.
Density (at 20 °C): . . . . . 0,714 g/cm³ . . . . . DIN 51757
Water solubility: . . . . . insoluble
Partition coefficient: . . . . . No information available.
Viscosity / dynamic: . . . . . No information available.
Viscosity / kinematic: . . . . . < 7 mm²/s
Flow time: . . . . . No information available.
Vapour density: . . . . . No information available.
Evaporation rate: . . . . . No information available.
Solvent separation test: . . . . . No information available.
Solvent content:. . . . . No information available.

9.2 Other information:

Solid content:. . . . . No information
Density: . . . . . Data apply to technical substance.
Pressure: . . . . . 5 bar (20 °C)

Section 10: Stability and reactivity

10.1. Reactivity:
Reacts with : Oxidizing agents.

10.2. Chemical stability:
The product is stable under normal conditions.

10.3. Possibility of hazardous reactions:
Do not expose to temperatures above 50 °C. Heating causes rise in pressure with risk of bursting.

10.4. Conditions to avoid:
Keep away from heat. Ignition hazard.

10.5. Incompatible materials:
Oxidizing agents, strong.

10.6. Hazardous decomposition products:
No information available.

Further information:
Do not mix with other chemicals.

Section 11: Toxicological information (comments may be based on analogy with similar products).

11.1 Information on toxicological effects:
Toxicocinetics, metabolism and distribution
No information available

Acute toxicity:

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
64742-49-0	Hydrocarbons, C6-C7, n-alkanes, isoalkanes cyclic				
	oral	LD50	> 5000 mg/kg	Rat.	
	dermal	LD50	> 2000 mg/kg	Rabbit.	

Specific effects in experiment on an animal:
No information available.

Irritation and corrosivity:
Vapours may cause drowsiness and dizziness. After skin contact: irritant.

Sensitising effects:
No information available.

Severe effects after repeated or prolonged exposure:
No information available.

Carcinogenic/mutagenic/toxic effects for reproduction:
No indications of human carcinogenicity exist.
No indications of human germ cell mutagenicity exist.
No indications of human reproductive toxicity exist.

Additional information on tests:
The classification was undertaken in accordance with the calculation method governed by the Preparations Directive (1999/45/EC).

Section 12: Ecological information

12.1 Toxicity:
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

CAS No	Chemical name					
	Aquatic toxicity	Method	Dose	h	Species	Source
64742-49-0	Hydrocarbons, C6-C7, n-alkanes, isoalkanes cyclic					
	Acute fish toxicity	LC50	1 – 10 mg/l	96	Pimephales promelas	
	Acute algae toxicity	ErC50	10 – 100 mg/l	72	Pseudokirchneriella subcapitata	
	Acute crustacea toxicity	EC50	1 – 10 mg/l	48	Daphnia magna	
110-54-3	n-hexane					
	Acute fish toxicity	LC50	2,5 mg/l	96	Pimephales promelas	Geiger et al. 1990

12.2. Persistence and degradability:
Easily biodegradable (concerning to the criteria of the OECD). Fast photochemical oxidation in the air.

12.3. Bioaccumulative potential:
On the basis of existing data about disposal/decomposition and bio-accumulation potential, long term environmental damage cannot be ruled out.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
110-54-3	n-hexane	3,9

12.4. Mobility in soil:
Floats on the water surface. Is adsorbed by soil, slight mobility.

12.5. Results of PBT and vPvB assessment:
This substance does not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects:
No information available.

Further information:
Do not empty into drains or the aquatic environment. The classification was undertaken in accordance with the calculation method governed by the Preparations Directive (1999/45/EC).

Section 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Do not empty into drains or the aquatic environment. Waste disposal according to official state regulations.

Waste disposal number of waste from residues/unused products

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing dangerous substances Classified as hazardous waste.

Waste disposal number of used product

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing dangerous substances Classified as hazardous waste.

Waste disposal number of contaminated packaging

150104 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); metallic packaging

Contaminated packaging

Cleaned containers may be recycled. Handle contaminated packaging in the same way as the substance itself.

Section 14: Transport information

Land transport (ADR/RID):

14.1. UN number:	UN1950
14.2. UN proper shipping name:	AEROSOLS
14.3. Transport hazard class(es):	2
Hazard label:	2.1
Classification code:	5F
Special Provisions:	190 327 344 625
Limited quantity:	1 L
Transport category:	2
Tunnel restriction code:	D

Other applicable information (land transport):

Limited quantity:	E0

Inland waterways transport (ADN)

14.1. UN number:	UN1950
14.2. UN proper shipping name:	AEROSOLS
14.3. Transport hazard class(es):	2
Hazard label:	2.1
Classification code:	5F
Special Provisions:	190 327 344 625
Limited quantity:	1 L

Other applicable information (inland waterways transport):

Limited quantity:	E0

Marine transport (IMDG)

14.1. UN number:	UN1950
14.2. UN proper shipping name:	AEROSOLS
14.3. Transport hazard class(es):	2
14.4. Packing group:	–
Hazard label:	2, see SP63
Special Provisions:	63, 190, 277, 327, 344, 959
Limited quantity:	See SP277
EmS:	F-D, S-U

Other applicable information (marine transport):

Limited quantity:	E0

Air transport (ICAO):

UN/ID number:	UN1950
14.2. UN proper shipping name:	AEROSOLS, flammable
14.3. Transport hazard class(es):	
Hazard label:	2, see SP63
Special Provisions:	63, 190, 277, 327, 344, 959
Limited quantity Passenger:	30 kg G
IATA-packing instructions – Passenger:	203
IATA-max. quantity – Passenger:	75 kg
IATA-packing instructions – Cargo:	203
IATA-max. quantity – Cargo:	150kg

Other applicable information (air transport):

Limited quantity:	E0
Passenger-LQ:	Y203

14.5. Environmental hazards:

Dangerous for the environment:	Yes

Section 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific to the substance or mixture:

EU regulatory information:

1999/13/EC (VOC):	VOC-CH: 0,339 kg/500ml (95,76 % w/w) VOC 1999/13/EG: 95,76 % w/w

Additional information:

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)
Data concerning the Directive 1999/13/EC on the limitation of emissions of volatile organic compounds (VOC-RL)

National regulatory information:

Water contaminating class (D):	1-slightly water contaminating

Section 16: Other information

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer
(Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals EINECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) DNEL/DMEL: Derived No Effect Level / Derived Minimal Effect Level

WEL (UK): Workplace Exposure Limits TWA (EC): Time-Weighted Average
ATE: Acute Toxicity Estimate STEL (EC) Short Term Exposure Limit

LC50: Lethal Concentration

EC50: Half maximal Effective Concentration

ErC50: Means EC50 in terms of reduction of growth rate

Full text of R phrases referred to under Sections 2 and 3

11	Highly flammable.
12	Extremely flammable.
38	Irritating to skin.
48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
51	Toxic to aquatic organisms.
51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment .
53	May cause long-term adverse effects in the aquatic environment .
62	Possible risk of impaired fertility.
65	Harmful: may cause lung damage if swallowed.
67	Vapours may cause drowsiness and dizziness .

Full text of H statements referred to under Sections 2 and 3

H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H361f	Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects .

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal.

The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. (The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)