

**1. Substance identification:
MANUFACTURER AND DISTRIBUTOR IDENTIFICATION****1.1. Product identification: 2K-HS Löser-Spray
APP No.: 030356****1.2. Intended use:** Solvent, transparent product for removing dust and fusing edges of new coatings into existing coatings, in the pressurized container**1.3. Material safety data sheet supplier:****Distributor:** AUTO – PLAST PRODUKT Sp. z o. o.
Ul. Przemysłowa 10, 62 – 300 Września
Tel. +48 (061) 437 00 00
Fax. +48 (061) 437 91 37
e-mail: app@app.com.pl
www.app.com.pl**Person responsible for product: Product management department, t.golda@app.com.pl****1.4. Emergency number:****+48 (061) 437 00 00 (8.00 -16.00)**

Revision date: 18.01.2011

2. HAZARDS IDENTIFICATION**2.1. Mixture classification:**

Classification according to table 3.2 of appendix VI to decree of European Parliament and Council (EC) no. 1272/2008 (GHS decree), including 30 and 31 ATP to 67/548/EEC and upon the basis of data supplied by the producer:



F+ Extremely flammable product



Xn Harmful product

R12 Extremely flammable

R20 Harmful by inhalation

R36 Irritating to eyes

R66 Repeated exposure may cause skin dryness or cracking

2.2. Marking elements:**The product has been classified as dangerous. The regulations regarding marking of dangerous product apply.****Package marking:****Product contains:**

Cyclohexanone

Warning marks:

F+ Extremely flammable product


 Xn **Harmful product**
Hazard phrases:

R20 Harmful by inhalation

R36 Irritating to eyes

R66 Repeated exposure may cause skin dryness or cracking

Phrases indicating conditions of safe usage:

S2 Keep out of the reach of children

S3 Keep in a cool place

S16 Do not store near ignition sources – do not smoke

S23 Do not breathe dispersed liquid

S46 If swallowed, seek medical advice immediately and show this container or label

S51 Use only in well-ventilated areas

The following inscription should be placed on the container:

- Warning! Container under pressure: protect from sunlight and heating up above the temperature of 50°C (e.g. heat from the light bulb). Do not open violently or burn, even after use.

- Do not disperse over open fire or glowing material. Protect from ignition sources – do not smoke when dispersing. Keep out of the reach of children.

- Possibility of creating explosive mixtures in case of improper ventilation

- Vapours may cause drowsiness and dizziness

2.3 Other hazards:

None.

3. COMPOSITION AND INFORMATION ON COMPONENTS
3.1. Substances:

N/A

3.2. Mixtures:

Classification of dangerous substances in the product is given according to table 3.2 of appendix VI to decree of European Parliament and Council (EC) no. 1272/2008 (GHS decree), including 30 and 31 ATP to 67/548/EEC and upon the basis of data supplied by the producer.

Dangerous substance name	Concentrations range	CAS No.	Index no.	EC no.	Warning marks
Dimethyl ether (propellant)	25-50 %	115-10-6	603-019-00-8	204-065-8	F+: R12
					GHS02; GHS04 Dangerous Flam.Gas1: H220 Press.Gas: H280
					R10 Xn: R20

					GHS02; GHS07 Warning Flam.Liq.3: H226 Acute Tox.4: H332
Acetone	10-25 %	67-64-1	606-001-00-8	200-662-2	F: R11 Xi: R36 R66; R67
					GHS02; GHS07; Dangerous Flam.Liq.2: H225 Eye Irrit.2: H319 STOT SE3: H336 EUH066
Butyl acetone	10-25 %	141-78-6	607-022-00-5	205-500-4	F: R11 Xi: R36 R66; R67
					GHS02; GHS07; Dangerous Flam.Liq.2: H225 Eye Irrit.2: H219 STOT SE3: H336 EUH066

The meaning of symbols – see section 16

4. FIRST AID MEASURES

4.1. First aid means:

4.1.1 First aid guidelines according to important exposure routes:

The product safety data sheet should be presented for the physician. In case of exposure to the product vapours and aerosols take the injured person to a well ventilated room - medical attention necessary

a) respiratory system: take the injured person to a well ventilated room; place the injured person in half-lying position, loose clothing, make sure that there are no objects or secretion impeding breathing, in the mouth; in case of no respiration – apply artificial respiration; medical attention necessary.

b) Skin: take off dirty clothing; wash contaminated skin with plenty of water and soap; do not use any solvents or diluents; in case of skin irritation – medical attention necessary.

c) Eyes: flush contaminated eyes, with eyelids open, with a lot of running water, for 10-15 minutes, avoid strong water jet which may cause the risk of damaging cornea; in case of continued burning sensation or irritation contact the physician; do not use any liquids for washing eyes or any ointments before the medical consultation; in case of using the contact lenses remove them, if possible; in case of eyes irritation contact the physician.

d) digestive system: rinse mouth with a lot of running water; do not induce vomiting; when the victim is conscious, give water to drink in small amounts (approx. 0.2 ÷ 0.3 l); in case of unconsciousness do not give anything to mouth; in case of discomfort – medical attention necessary;

4.1.2. Others:

None.

4.2. The most important acute and delayed symptoms and exposure results:

Acute symptoms:

Product may cause respiratory system irritation after inhalation (sneezing, coughing). Product may also mechanically irritate eyes and skin. Swallowing of large amounts of product may cause gastric problems (abdominal pain, nausea, vomiting and diarrhea).

Delayed symptoms:

Frequent exposure may cause delayed sleepiness and dizziness.

4.3. Indications regarding any immediate medical assistance and special treatment of a victim:

In case of swallowing large amount of product contact the physician.

5. FIRE FIGHTING MEASURES

5.1. Extinguishing media:

a) Recommended extinguishing media: Dispersed water streams, powder extinguishers, foam resistant to alcohol.

b) Not recommended extinguishing media: Avoid strong water streams, which may cause fire propagation.

5.2. Not recommended extinguishing media:

vapours create flammable and explosive mixtures with air. vapours may float from the source of ignition and return in the form of flame. heating up, spark or contact with fire may cause ignition. liberates toxic gases in fire.

5.3. Information for fire brigade:

Should be worn self-contained breathing apparatus and protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Notice: Explosion endangered area - vapours create flammable and explosive mixtures with air

6.1. Individual precautions, protective equipment and emergency procedures:

6.1.1. For persons not belonging to the assisting personnel:

- use protective clothing, gloves, goggles and anti-dust mask during removing the product

6.1.2. For assisting persons:

- when removing large amounts of the product, wear self-contained breathing apparatus with a mask

- use well fitted and tight protective glasses, gloves and clothing

6.2. Environmental precautions:

- in case of high release amount to water or soil inform the appropriate services

6.3. Methods and materials preventing the contamination propagation and used for removing it:

6.3.1. Recommendations for preventing the leakage propagation:

- store and transport in tight packages

- immediately remove product

- do not let product to reach the water or drain system

- wash the contaminated area and equipment with water

6.3.2. Recommendations for removing the leakage:

- absorb with non-flammable absorptive material (e.g. infusorial earth)

- collect the absorptive material to properly marked, sealed package – caution: used absorptive material also causes burns

- remove all possible ignition sources, do not smoke

6.3.3. Other information:

None.

6.4. Reference to other sections:

See information In section 8 and 13.

7. HANDLING AND STORAGE

Notice: *Explosion endangered area - vapours create flammable and explosive mixtures with air*

7.1. Precautions regarding the safety procedures:

7.1.1. General advice:

- avoid static electricity
- do not allow for creating product vapours concentration in the air which may be explosive, as well as concentration exceeding the safety standards
- assure easy access to extinguishing means and equipment, necessary during product leak removing
- act according to general industrial safety rules for work with chemical substances; strictly follow the prepared procedures; during work with product apply the general industrial safety regulations, included in Labour and Social Policy Minister decree from 30th of December, 2004 (Journal of Laws No. 11 from 2005, pos. 86); follow recommendations, included in producer's instruction
- do not allow for eyes, skin and clothes contamination
- avoid prolonged and repeated exposure

7.1.2. Guidelines for the industrial safety

- do not eat or drink during the product application
- do not smoke during work with the product
- avoid creating and inhalation of product dust
- use proper work (protective) clothing and gloves (rubber or PVC) during work with the product
- a station for washing the eyes must be available next to the work station
- follow the personal hygiene principles
- do not eat, drink and smoke during work with the product, except appropriate locations; wash hands before breaks and after work, apply hand cream, if necessary
- work in ventilated rooms

7.2. Safety storage conditions and information about any mutual inconsistencies:

- store the product in cool, dry and well ventilated rooms
- do not store near food /fodder
- Store in tightly closed, adequately marked containers
- for safety reasons, it is recommended to store the product in original packages
- protect packages from mechanical damage

7.3. Special final information:

None.

8. EXPOSURE CONTROL AND PERSONAL PROTECTION

8.1. Control parameters specification

8.1.1. Maximum allowable concentrations in the work environment:

According to Labour and Social Policy Minister decree from 29th of November, 2002 (Journal of Laws No. 217, pos. 1833) with amendments (Journal of Laws No. 212 pos. 1769 from 2005; Journal of Laws No. 161 pos. 1141, 1142 from 2007; Journal of Laws No. 105 pos. 873 from 2009; Journal of Laws No. 141 pos. 950 from 2010):

Dimethyl ether:	NDS: 100 mg/m ³	NDSCh: none	NDSP: none
Cyclohexanone:	NDS: 40 mg/m ³	NDSCh: 80 mg/m ³	NDSP: none
Acetone:	NDS: 600 mg/m ³	NDSCh: 1800 mg/m ³	NDSP: none
Butyl acetone:	NDS: 200 mg/m ³	NDSCh: 600 mg/m ³	NDSP: none

8.1.2. Recommended monitoring procedures:

- PN-89/Z-01001/06. Air purity protection. Names, definitions and units. Terminology concerning air quality tests at work places.

- PN-89/Z-04008/07. Air purity protection. Collecting samples. Principles of collecting air samples in work environment and the interpretation of results..
- Method recommended by research and development units in work medicine units. Dimethyl ether
- PN-79/Z-04057. Sheet 01. Air purity protection. Tests for contents of acetone. Determination of acetone at work stations with gas chromatography method along with sample enriching.
- PN-89/Z-04023. Sheet 02. Air purity protection. Tests on the contents (in the mixtures) of harmful substances separating from nitrocellulose painted goods. Determination of acetone, alcohols: ethyl, n-butyl, isobutyl, ethoxyethyl, butoxyethyl; acetates: ethyl, n-butyl, ethoxyethyl, toluene and xylene at work stations with gas chromatography method.
- PN-76/Z-04087. Air purity protection. Determination of cyclohexanone amount in work stations using gas chromatography.
- PN-78/Z-04119. Sheet 01. Air purity protection. Tests for the contents of acetic acid esters Determination of acetates: methyl, ethyl, propyl, butyl and amyl at work stations with gas chromatography method along with sample enriching.

8.1.3. Threshold Limit Values in biological material:Cyclohexanone:

- determined substance: cyclohexanone
- Threshold Limit Values in biological material: 5.0 of cyclohexanone/g creatinine
- biological material: urine

Notes: material collection should take place after the daily exposure, at the end of the work week.

8.1.4. DNEL and PNEC values:

No DNEL and PNEC values have been determined for the substance.

8.2. Exposure control:**8.2.1. Appropriate technical control means:**

Personnel medical examinations as well as tests and measurements of harmful factors should be performed according to regulations in force.

8.2.2. Personal protection:

- a) Eyes and face protection: well fitted goggles or glasses
- b) Skin protection: protective (work) clothing
- c) Respiratory system protection: working ventilation; in case of frequent exposure mask with multigas absorber

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information about the basic physical and chemical properties:

- form: transparent liquid in aerosol
- odour: characteristic
- Odour threshold: not determined
- pH: n/a
- melting/freezing point: -24°C
- Boiling temperature: n/a due to form – aerosol
- flash point: <1°C
- autoignition temperature: 235°C
- Decomposition temperature: not determined
- Evaporation speed: not determined
- combustibility: extremely flammable
- hazard danger boundaries:
 - lower: 1,3% (v/v)
 - upper: 18,6% (v/v)

- vapour pressure: 5200 hPa (20°C)
- vapour density: not determined
- density: 0,792 g/cm³ (20°C)
- solubility: does not mix or poorly mixes with water
- Distribution ratio n- octanol/water not determined
- Viscosity: not determined
- explosive properties: product poses no explosion threat; creation of explosive mixtures with air is possible
- oxidizing properties: none

9.2. Other information:

- VOC content: 792,2 g/l

10. STABILITY AND REACTIVITY

10.1. Reactivity:

Product is not reactive.

10.2. Chemical Stability:

Product is chemically stable.

10.3. Possibility of dangerous reactions:

Unknown

10.4. Conditions to be avoided:

High temperature. Sources of ignition, heat, sparks.

10.5. Inconsistent materials:

Unknown.

10.6. Hazardous products of decomposition:

- carbon monoxides
- toxic gases and smokes

11. TOXICOLOGICAL INFORMATION

11.1. Information about the toxicological results:Health hazards:

- product is harmful
- product is harmful for respiratory system
- irritating for eyes
- repeated exposure may cause skin drying or cracking

Toxic doses and concentrations:Cyclohexanone:

LD50 (rat, orally):	1535 mg/kg
LD50 (rabbit, skin):	949 mg/kg
LC50 (rat, inhalation):	8000 mg/dm ³ /4 hours

Inhalation:

Product may cause respiratory system irritation after inhalation (sneezing, coughing). Harmful in case of inhalation.

Eyes/ skin:

Product is irritating for eyes. Product may irritate skin. Repeated exposure may cause skin drying or cracking.

Exposure by swallowing:

Swallowing of large amounts of product may cause gastric problems (abdominal pain, nausea, vomiting and diarrhea).

Allergies:

- product is not allergic

12. ECOLOGICAL INFORMATION**12.1. Toxicity:**

No data.

12.2. Permanence and degradability:

The product is biodegradable.

12.3. Bioaccumulation ability:

No data.

12.4. Mobility:

No data.

12.5. PBT and vPvB properties assessment results:

None.

12.6. Other harmful effects:

None.

13. DISPOSAL CONSIDERATIONS**13.1. Waste material neutralization methods:****13.1.1. Product:**

- waste kind: Gases in containers, other than mentioned in 16 05 04

- Waste code: 16 05 05

- Dangerous waste

Recover and return to production, if possible. Do not utilize with the communal wastes. Do not remove to the sewage system. Do not allow for surface and underground water or ground contamination. Utilize according to the valid regulations for the chemical wastes. Neutralize only in appropriate areas, in systems or devices fulfilling the legal requirements.

13.1.2 Package:

- waste kind: Metal packages, containing dangerous porous structural reinforcing elements (e.g. asbestos), including empty pressure containers

- Dangerous waste

Waste code: 15 01 11*

14. TRANSPORT INFORMATION

Product is not dangerous in range of road transport regulation.

14.1. UN No. (ONZ No.): 1950

14.2. Correct UN transport name: AEROSOLS, FLAMMABLE

14.3. Hazard class in transport: 2

14.4. Package group: -

14.5. Environment hazard: none

14.6. Special precautions for users: None

14.7. Bulk transport according to appendix II to convention MARPOL 73/78 and IBC code:

n/a

Others:

Identification code: 5F

Labels: 2.1

15. Legal regulations information

15.1. Legal regulations regarding safety, health and environment protection, specific for substances and mixtures:

1. Decree of European Council no. 1907/2006 from 16.12.2006 regarding registering, evaluation, certification and authorizations in range of chemicals (REACH), creation of European Chemicals Agency, changing Directive 1999/45/EC and cancelling decree of Council no. 793/93 and decree of Commission no.1488/94, as well as directives 76/769/EC, 91/155/EC, 93/67/EC, 93/105/EC and 2000/21/EC (30.12.2006 PL Official Journal of European Union L 396/1)
2. Decree of European Parliament and Council (EC) no. 1272/2008 from 16.12.2008 regarding classification, marking and packaging of substances and mixtures, amending and cancelling the directives 67/548/EEC and 1999/45/EC, and amending the decree (EC) no. 1907/2006 (known as GHS decree) (31.12.2008 PL Official Journal of European Union L 353)
3. Act dated 11th January 2001 on chemical substances and preparations (Dz. U. No 11 item 84 dated 2001) with subsequent amendments) including: Act from 9.01.2009 regarding the amendment of act for chemical substances and preparations and some other acts (Journal of Laws no. 2009 pos. 106)
4. Act dated 27th April 2001 on waste (Dz. U. No 62 item 628 dated 2001) together with the Regulation of the Minister of the Environment (Dz. U. No. 152 item 1735 dated 2001)
5. Act dated 11th May 2001 on package and package waste (Dz. U. No. 63, item 638 dated 2001) with subsequent amendments
6. Announcement of Polish Parliament Marshal from 04.07.2006 regarding announcement of uniform act text – Environment protection law (Journal of Laws No. 2006 pos. 129 from 2006)
7. Act dated 28th October 2002 on land transport of hazardous materials (Dz. U. No 199 item 1671 dated 2001) with subsequent amendments
8. Regulation of Minister of Health of 2nd September 2003 on marking of dangerous substance and preparation packages (Dz. U. No 173 item 1679 dated 2003) with subsequent amendments of 9th November 2004 (Dz. U. No 260 item 2595 dated 2004) and 5th March 2009(Dz.U. 2009 No. 53 item 439)
9. Regulation of Minister of Health dated 5th March 2009(Dz.U. 2009 No. 43 Pos. 353)
10. Regulation of the Minister of Labour and Social Policy dated 29th November 2002 on the highest allowed concentrations and intensity of agents harmful to health in the work environment (Dz. U. No. 217, item 1833 dated 2002). with the amendment (Dz. U. No 212 item 1769 dated 2005).; Dz. U. No. 161 item 1141, 1142 2007; Dz. U. No. 105 item 873 2009.; Dz. U. No. 141 item. 950 2010)
11. Government declaration from 16.01.09 regarding coming into force changes to appendices A and B of European agreement, regarding international road transport of dangerous products (ADR), made out in Geneva in 30.09.1957 (Journal of Laws No. 2009 pos. 162)
12. Regulation of the Minister of Environment dated 27th September 2001 on waste catalogue (Dz. U. 2001 No 112 item 1206)
13. Announcement of Minister of Economy, Labour and Social Policy from 28.08.2003 regarding the uniform text of decree of Minister of Labour and Social Policy regarding the general industrial safety regulations (Journal of Laws no. 169 pos. 1650).
14. Decree of Government from 10.09.1996 regarding list of works forbidden for women (Journal of Laws No. 196 pos. 545) with later amendment (Journal of Laws no. 127 pos. 1092)
15. Regulation of the Minister of Health dated 20th April 2005 on the tests and measurements of agents harmful to health in the work environment (Dz. U. dated 73, no. 73, item 645 dated 2005) with amendment (Journal of Laws 2007 No. 241 item 1772)
16. Regulation of the Minister of Health and Social Welfare dated 30th May 1996 on conducting medical tests of employees, the scope of prevention in health care of the employees and doctor's statements issued for the purposes stated in the Labour Code (Dz. U. No. 69 item 332 dates 1996) with subsequent amendments (Dz. U. No 37 item 451 and Dz. U. No. 128, item 1405 dated 2001)
17. Regulation of the Council of Ministers dated 24th August 2004 on the list of works forbidden to the juvenile and the conditions of employing them at some works (Dz. U. No. 200 item 2047 dated 2004) with

subsequent amendments (Dz. U. No 136 item 1145 dated 2005)

18. Regulation of Minister of Economy and Labour dated 5th July 2004 on the limitations, bans or production conditions, trading or the use of hazardous substances and preparations and the products containing them (Dz. U. No. 168 item 1762 dated 2004) with subsequent amendments (Dz. U. No 39 item 372 dated 2005 and Dz. U. No. 127, item 887 dated 2006 and Dz.U. 200 No. 190 item 1163)

19. Act dated 29th July 2005 on counteracting drug abuse (Dz. U. No. 179, item 1485 dated 2005) with the amendment (Dz. U. No. 120, item 826 dated 2006 and the Regulation (EC) No. 273/2004 of the European Parliament and the Council dated 11th February 2004. on the precursors of drugs (Dz. Urz. EC L 047 dated 18th February 2005) and the Regulation (EC) and the Council No. 111/2005 dated 22nd December 2004 defining the principles of supervising the trade with drugs precursors between the Community and the third countries (Dz. U. EC L 22 dated 26th January 2005, page 1; Dz. Urz. EC Polish special issue dated 2005, volume 48, page 1)..

15.2. Chemical safety assessment:


No data.

16. OTHER INFORMATION

The meaning of symbols and the contents of R phrases included in section 3:

F+	Extremely flammable product
F	Highly flammable product
Xn	Harmful product
Xi	Irritating product
R10	Flammable product
R11	Highly flammable product
R12	Extremely flammable product
R20	Harmful by inhalation
R36	Irritating to eyes
R66	Repeated exposure may cause skin dryness or cracking
R67	Vapours may cause drowsiness and dizziness
Flam.Gas 1	Flammable gas – hazard class 1
Flam.Liq.3	Liquid flammable substance – hazard class 2
Press.Gas	Pressurized gas
Eye Irrit.2	Irritant for eyes – hazard class 2
STOT SE 3	Toxic for target organs - single exposure
STOT	Single exposure – hazard class 3
Acute Tox.4	Acute toxicity – hazard class 4
H220	Extremely flammable gas
H225	Extremely flammable liquid and vapours
H226	Flammable liquid and vapours
H280	Contains pressurized gas; heating may cause explosion
H319	Causes serious eyes damage
H332	Harmful after inhalation
H336	Vapours may cause drowsiness and dizziness
EUH066	Repeated exposition may cause skin drying or cracking.

Employees' medical tests and tests and measurements of the harmful factors to be made pursuant to the valid regulations.

	MATERIAL SAFETY DATA SHEET	
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This material safety data sheet was prepared pursuant to the data coming from the MSDS provided by the manufacturer. The above information was prepared on the basis of current knowledge and experiences. It does not guarantee of the property of the product or quality specification and cannot be the basis for the complaint.

The product should be transported, stored and applied pursuant to the regulations in force and good practice and hygiene of work.

The manufacturer does not bear responsibility for any losses arising directly or indirectly from the application of the above interpretation of the regulations or instructions..

The presented information cannot be applied for the mixtures of the product with other substances. The use of information given and the application of the product are not controlled by the manufacturer so it is the user's obligation to create adequate conditions for safe handling the product.

MSDS was prepared by **CHEM-NET S.C.** 90-552 Łódź, Kopernika 35/9, www.chem-net.info, biuro@chem-net.info MSDS was prepared pursuant to domestic regulations currently in force. The preparation of this MSDS was based on current knowledge and experiences
