1. Designation of the mixtures and of the company

1.1. Product identifier:
group 2; trade names: Branth's Kombi-Verdünnung, Branth's Spezial-Verdünnung
1.2. Intended use: paint thinner; interior and exterior; manual, semi-automatic or automatic application, for industrial-, commercial-workman like- and hobby-sector
1.3. Company/untertaking identification:
Branth-Chemie A.V. BRANTH * Telefon: +49 40-369740-0 * Telefax: +49 40-367148
Biedenkamp 23, D-21509 Glinde/Hamburg, Germany
e-Mail: Branth-Chemie@t-online.de
Information throuch: SALES /TECHNICAL SERVICE: +49 40-369740-0 (Mo.-Th. 8 a.m.-4 p.m., Fr. 8 a.m.-1 p.m.)
1.4. Emergency phone (in Germany): Giftnotrufzentrale Göttingen: +49 551-19240

2. Hazards identification

2.1. According to GefstoffV resp. RL 1999/45/EG and 67/548/EWG: no danger symbol; R10,66,67; S2,23,38,51

2.2. Labelling according to VO 1272/2008/EG (GHS, CLP)

Flam. Liq 3 H226
STOT. SE 3 H336

Hazard pictograms:
Product identifier:
Methoxypropanol (PM) (see chaper 3.2.; Appendix "B")
Signal word: Attention
Hazard statements: H226 Flammable liquid and vapour. H336 May cause sleepiness or drowsiness.
Precautionary statement: P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking. P404 Store in a closed container. P261 Avoid breathing vapours/spray. P262 Do not get in eyes, on skin, or on clothing. Use only outdoors or in well-ventilated area.
Other hazards: EUH 066 Repeated exposure may cause skin dryness or cracking.
Vapours are heavier than air. These can spread themselves in the worse case in higher concentrations in pits, cellars or on the ground floor. Working with high amounts: P241 Use explosion-proof electrical equipment.
Take precautions against static discharges. P102 Keep out of reach of children.

2.3. Characterization: solvent mixture, flammable

3. Information on ingredients	Appendix: Letter	Trade name	
3.2. Mixtures %-share of substances classified as hazardous to health or environmental hazard		Kombi-Verdünnung	Spezial-Verdünnung
entarom. KW; CAS 64742-48-9	A	5 - <10	5 - <10
PM; CAS 107-98-2	B	20-30	20-30
PMA; CAS 108-65-6	C	5-15	15-25
n-Butylacetat; CAS 123-86-4	D	30-50	--
Methyllactat; CAS 547-64-8	E	--	10-15
EPA; CAS 54839-24-6	G	--	5-15
Continued on page 4: Detailed Informationen see appendix Material-Safety-Data-Sheet.			

4. First Aid measures

4.1. General: In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. **Inhalation:** Remove to fresh air, keep patient warm and at rest, if breathing is irregular or stopped, administer artificial respiration. Give nothing by mouth. If unconscious, place in recovery position and seek medical advice immediately. **Eye contact:** Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart and seek medical advice. **Skin contact:** Remove contaminated clothing. Wash skin thoroughly with soap and water or use recognised skin cleaner. Do not use solvents or thinners. Ingestion: Rinse mouth with water. Let water be drunken in little sips afterwards. Obtain immediate medical attention. Keep at rest. Do not induce vomiting.
4.2. Long term: Serious long term effects are not known for the substances used in this preparation.
4.3. Please show Safety-Data-Sheet to the doctor. After swallowing and vomiting, if necessary lung examination.

5. Firefighting measures

5.1. Extinguishing media: recommended: alcohol resistant foam, CO_2, powders, water spay/mist
not suitable: water-jet
5.2. Recommendations: fire will produce dense black smoke. Inhalation of decomposition products may cause a health hazard. **Additional protection:** when fire fighting appropriate breathing apparatus is required
5.3 Advice for firefighters: sealed containers in the proximity should be cooled with plenty of water. Disposed water should not be allowed entering drains.

6. Accidental release measures

6.1. Personal protection: Refer to instructions listed in sections chapter 7 and 8
6.2. Environmental protection: Do not allow entering drains or watercourses. If the product contaminates lakes, rivers or sewages, inform appropriate authorities in accordance with local regulations.
6.3. Cleaning/disposal: Collect spillage with non-combustible absorbent materials or mechanically.

7. Handling and storage

Handling

7.1. Recommendations for safe handling: the product should only be used in areas from which naked lights, fire and other ignition sources have been excluded. Electrical equipment should be protected to the appropriate standard. Avoid skin and eye contact. Avoid inhalation of vapour and spray mist. Smoking, eating and drinking should be prohibited in application area. For personal protection: see section 8. Comply with the local health and safety laws at work.
Do not empty using pressure.

7.2. Storage

Requirements for storerooms and containers: Store in a cool place. Keep containers closed. Do not empty using pressure. Smoking prohibited. No access for unauthorised persons. Containers that are opened must be resealed carefully and kept upright to prevent leakage. Combined storage: Keep away from oxidising agents, strong alkaline and strong acid materials.

Additional storage requirements: Store in original containers. Observe label precautions. Store in well-ventilated, cool and dry, areas; away from sources of heat and direct sunlight. Keep away form sources of ignition.
Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid concentrations higher than the eccupational exposure limits.
UN test-fall-height for standard 5 ltr. canister: 1,9m at a temperature of 20°C +-2°C (test-pile-height max. 3m max. 40°C)
Stock class: (Germany) 3 A (flammable liquids)

8. Exposure controls / personal protection

8.1. Ingredients with occupational exposure limits: see 3.2 (page 1) and appendix (page 4)

8.2. Engineering measures: Provide adequate ventilation. Where reasonably practical this should be achieved by the use of local exhaust ventilation and good general extraction.

8.2.1. **Personal protection equipment**

Protective and hygiene measurements: All parts of the body should be washed after contact. Smoking, eating and drinking is prohibited during working.

Respiratory protection: If exposed above the occupational exposure limits (o.e.l.) acc. 8.1 or when aerosols occur use appropriate certified respirators. Please check application conditions and rules of the relevant association (rules for using respiratory equipment). During manual application outdoors, (brush, roller) and single person application in a large ventilated building the concentration is usually below the o.e.l. When spraying outdoors, respectively and single person application in a large, well ventilated building this is comparative; however, in these cases the possible risk of a fine aerosol should be considered when choosing the appropriate respirator (follow manufacturer's recommendations). An appropriate fresh air supply is required when applying these products in confined areas (vessels/tanks) or, in similar cases air-fed masks/respirators shall be used. Respiratory protection according to manufacturer's recommendations and local situation. When ventilating please consider that solvent vapours are heavier than air.

Hand protection:
Wear gloves that are suitable for chemicals according EN 374. The gloves shall be certified for suitability for the exposure regarding resistance, anti-static properties etc. Please follow the recommendations of the manufacturer of the gloves. Protective gloves shall be replaced immediately when damaged or at first signs of wear and tear. Application should be planned in a way that it is not necessary to wear protective gloves during an extended period of time. Suitable materials are: Nitrile-rubber; material strength: > 0,4 mm, penetration time: > 480 minutes. At longer exposure a higher material strength of gloves with a barrier layer shall be used. Follow manufacturer's recommendations. Repeated or prolonged contact with the preparation causes removal of natural fat from the skin. Do not use paint-thinner for skin-cleaning. If the application conditions are impeding that gloves are not worn, it is recommended to use barrier creams before and after.
Barrier creames help to protect the exposed areas of skin.

Eye protection: In cases of possible splashes wear protective glasses according EN 166.

Skin protection:
During normal application with brush and roller extra skin protection is not required. If, due to application conditions or method, the risk of contact cannot be avoided, electrostatic conducting (protective) clothing (cotton) can be worn. Follow manufacturer's recommendations.

8.2.2. Environmental Data: The preparations are **not** subject to "environmental hazardous-N" labelling-requirements.

9. Physical and chemical properties

Trade names	Kombi-Verdünnung	Spezial-Verdünnung
9.1. physical state	liquid	
colour	colourless / clear	
Smell	aromatic	mild
change in condition	evaporation	
Flash point (DIN 53213)	28º C	36º C
Ignition temperature (DIN 51794)	> 200º C	> 250º C
Fire supporting properties/Auto ignition	no	
Explosion hazard due to	evaporation	
Explosion limits lower/higher	0,5/11 (literature)	
Vapour pressure at 20º C	10-15 h Pa	3-10 h Pa
Density at 20º C (depends on colour)	ca. 0,9	ca. 1
Solubility in water at 20º C	< 30	
Viscosity at 20º C 4 mm (DIN 53211)	12-15	
9.2. Solvent separation test ADR/RID	--	
Solvent content (% by weight)	100	
Solids content/ph value	./-	/ca. 5

10. Stability and reactivity

10.1. Reactivity: see chapter 10.5.
10.2. Chemical stability: No hazardous reaction when handled and stored according to provisions.
10.3. Possibility of hazardous reactions: see chapter 10.2. and 10.5.
10.4. Conditions to avoid: see chapter 10.5.
10.5. Incompatible materials: Keep away from oxidising agents, strong alkaline and strong acid materials in order to avoid exothermic reactions.
10.6. Hazardous decomposing products: exposure to high temperatures may cause hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

11. Toxicological information: see chapter 3. (page 1) and appendix (page 4)

11.1. see chapter 2 for the mixture; see chapter 3 and appendix for composition of substances
11.2. General: There are no data available on the preparation itself; however the preparation is assessed according conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. Please refer to chapter 3., 8. and 15. Liquid splashed in the eyes may cause irritation and reversible damage. Generally the combination of solvent vapours and alcohol consumption in considered health endangering. Exposure to solvent vapours above the stated o.e.l. may lead to adverse health effects such as: irritation of the mucous membranes and respiratory organs, headache, dizziness, fatigue and adverse effects to the kidneys and liver, central nervous system and, in extreme cases, loss of consciousness. When covering large areas with solvent containing coatings in confined spaces (buildings) it is recommended to properly ventilate during and after application. Also during the following days regular ventilation is recommended.

12. Ecological information

12.1.-12.6. see chapter 3 and appendix for composition of substances
12.7. There are no data available on the preparation itself. The product is not allowed to enter drains or watercourses.

13. Disposal considerations

13.1.1. Product: Waste material should be disposed of (see local directions).
Note regulations of law, waste identification number: 080111 or 080112.
For all products listed here, completely dried waste paint (including brushes, rollers, filler mats etc.) are no harzardous waste.
13.1.2. Containers: Empty containers entirely with a brush, do not wash. Fully emptied, dry containers can easily be recycled. Containers not properly emptied are special waste (waste identification number: 150110).
13.1.3. Do not dispose of in wastewater.
13.1.4. Product should be used completely. Original-closed cans can be returned within the tenability date on the containers.

14. Transport information

14.1 UN number: 1263; **14.2.** UN proper shipping name: paint-related-material; **14.3.** Transport hazard class: 3;
14.4. Packing group III; **14.5.** not subject to hazardous classification, no marine pollutant;
14.6. Special precautions for user: no, flammable, fluid; EMS-number: F-E, S-D; **14.7.** no transport in bulk.
Additional transport information:
land transport in accordance with ADR/RID and GGVS/GGVE: Standard-5-ltrs.-containers: limited Quantitiy(LQ), no dangerous good
transport by sea in accordance with IMDG/GGVSea: 5-ltrs.-containers:"Ltd.qty", IMO-declaraion required "LQ"
transport by air in accordance with ICAO-TI und IATA-DGR: no air-transport organised through manufacturer, not recommended in standard-5-ltrs.-containers; containers with UN-approval can be required.

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Trade name	Kombi-Verdünnung	Spezial-Verdünnung
Class of risk / symbol	no / no	
TA-air (Gew. %): Kl. I / II / III (Germany)	0 / 0 /100	
Water polluting danger WGK-Germany	1 = small potential	
VbF-label/class (Germany)	no / A II	
VOC-value (g/l) (EU)	< 900	ca. 800
Productcode by GISBAU (Germany)	M-VM01, M-VM04	

15.2. No Chemical Safety Assessment has been carried out for this mixture.

16. Other information

I. Indication of changes: MSDS-changes that respresent a worsening/deterioration due to a change in our product composition are highlighted by vertical marks in the margin. Changes due to (once again) changed laws and regulations, editorial changes or facilitations/improvements are not marked.
II. Abbreviations and acronyms: You can require a list of all used abbreviations and acronyms separately in German language.
III. Important final informations: The information of this MSDS is based on the present state of our knowledge and on current EEC laws. Users working conditions are beyond our knowledge and control. The product is developed to meet the highest environmental standards, it should not to be used for other purposes than those specified under chapter one. It is always the responsibility of the user to take all necessary steps in order to fulfil the demands laid down in the local rules and legislation. The information her is meant as a description of the safety requirements of our product: it is not to be considered as a guarantee of the products properties. The appendix ist part of the MSDS.

A **entarom. KW; CAS 64742-48-9**; aromate free hydrocarbons, Naphtha (petroleum, hydrotreated, heavy),
EG 265-150-3; EINECS 265-150-3; INDEX 649-327-00-6; Reg.-No. 012119463258-33; **Xn; R10**, 65, 66, 67; S2, 23, 38, 51; **H226, 304, 336**
benzene-content<0,1%; AGW (TRGS 900) 300 mg/m³ ; DNEL: dermal, longterm, worker=300mg/kg/d; inhalation, acute, worker=1500 mg/m³;
dermal, longterm, consumer=300mg/kg/d; inhalation, longterm, consumer=900mg/m³; oval, longterm, consumer=300mg/kg/d.
Ingestion: LD 50 rat > 2000 mg/kg; Skinabsorption: LD 50 rat > 2000 mg/kg; Inhalation: LD 50 rat > nearly saturated vapour concentration, 4 h;
Ecology: LC50 fish > 1000 mg/l; LC50 invertebrate < 1000 mg/l; LC50 algae > 1000 mg/l; LC50 microorganisms < = 10;
Readily biodegradable; WGK 1.

B **PM; CAS 107-98-2**; 1-Methoxy-2-propanol; EG 203-539-1; EINECS 203-539-1; INDEX 603-064-00-3; Reg.-No. 012119457435;
R10, 67**;** S2, 23, 24, 38; **H226, 336**
AGW (TRGS 900) 370 mg/m³ 100 ppm sharp limit 2; IOELV (EU): TWA 375 mg/m³ 100 ppm; STEL 568 mg/m³ 150 ppm;
Ingestion: LD 50 rat 7.200 mg/kg; Inhalation: LC 50 rat 54,6 mg/l 4 h; Skinabsorption: LD 50 rabbit 14.000 mg/kg;
Readily biodegradable: (90 %, 28 d, OE CD 301 E); Fish toxicity: LCO Leuciscus idus melanotus > 4.600 mg/l 96 h; WGK 1

C **PMA; CAS 108-65-6;** 2-Methoxy-1-methylethylacetate; EG 203-603-9, INDEX 607-195-00-7; Reg.-No. 012119475791-29; **R10, H226**
AGW (TRGS 900) 270 mg/m³, sharp limit 1; IOELV (EU): TWA 275 mg/m³; STEL 550 mg/m³
Ingestion: LD 50 rat 8.532 mg/kg; Inhalation: LCO rat 23,8 mg/l 6 h; skinabsorption: LD 50 rat > 5.000 mg/kg;
Skin contact: no irritation; eye contact: irritated the eyes; not sensitizing (guinea pig), (maximization test)
Readily biodegradable: 100 % 8 d (dental wellens test EG 88/302); Fish toxicity: LC 50 Qucorhynchus mykiss
100-180 mg/l 96 h OEDC TG 203;
Daphnia toxicity: EC 50 Daphnia magna > 500 mg/l 48 h (RL 67/548/EWG Anh. V. C2);
Bacterial toxicity: activated sludge > 1.000 mg/l 0,5 h, WGK 1

D **n-Butylacetate; CAS 123-86-4**; EG 204-658-1; EINECS 204-658-1; INDEX 607-025-00-1; Reg.-No. 012119485493-29;
R10, 66, 67; S2, 24, 25, 38, 51; H226, 336; AGW (TRGS 900) 480 mg/m³ 100 ppm;
Ingestion: LD 50 rat 13.100 mg/kg; Inhalation: LC 50 rat > 21 mg/l 4 h; Skinabsorption: LD 50 rabbit > 17.600 mg/kg;
Readily biodegradable: 98 % 28 d (OECD 301 D); Fish toxicity: LC 50 Leuciscus idus melanotus 62 mg/l 96 h (DIN 38412);
Daphnia toxicity: EC 50 Daphnia magna 72,8 mg/l 24 h (DIN 38412); WGK 1

E **Methyllactate; CAS 547-64-8**; Milk acid methylester; EG 208-930-0; EINECS 208-930-0; INDEX 607-092-00-7;
Xi; R10, 36, 37; S2, 24, 25; **H226, 319, 335,** AGW (TRGS 900) no value reported; Ingestion: LD 50 rat > 2.000 mg/kg;
Readily biodegradable: (log PO/W: 0,53); WGK 1

G **EPA; CAS 54839-24-6**; Ethoxypropylacetate, 2-Ethoxy-1-methylethylacetate, EG 259-370-9, INDEX 603-177-00-8, Reg.-No. 012119457558-25
R10, 67; H226, 336; AGW (TRGS 900) 200 mg/m³ sharp limit 2 (II)
Ingestion: LD 50 rat 4.755 mg/kg; Inhalation: LC 50 rat 6,99 mg/l 4 h; Skinabsorption: Rabbit minor skin irritation (OECD 404);
Eye contact: Rabbit weak eye irritation (OECD 405); Readily biodegradable: 100 % 28 d; no bioaccumulation;
Fish toxicity: LC 50 Oncorhynchus mykiss 140 mg/l 96 h; Daphnia toxicity: EC 50 Daphnia Magna 110 mg/l 48 h;
Bacteria toxicity: EC 10 Pseudomonas putida 560 mg/l 16 h; WGK 1

Explanation; R-, S-, H and P-phrases:
Xi = irritant; Xn = injurious to health; N = environmental hazardous.
R10 flammable; R21 Harmful in contact with skin; R22 Harmful is swallowed; R36 Irritating to eyes; R37 Irritating to respiratory-system;
R40 Possibility of carcinogenic effect; R41 Risk of serious damage to eyes; R43 May cause sensitization by skin contact;
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment; R65 Harmful, may cause lung damage if swallowed; **R66 Repeated exposure may cause skin dryness or cracking,** R67 Vapours may cause drowsiness and dizziness.
S2 Keep out of reach of children, S23 Do not inhale vapour/spray; S24 Avoid contact with skin; S25 Avoid eye contact;
S38 In case of insufficient ventilation wear suitable respiratory equipment; S51 Use only in well-ventilated areas.
H226 Product and vapours are flammable; H304 May be fatal if swallowed and enters airways;
H319 Causes severe eye irritation; H335 Can irritate the respiratory tract;
H336: Vapours may cause dizziness/drowsiness.
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking; P280 Wear protective gloves/protective clothing/eye protection/ face protection; P303+P361+P353 If on skin (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower;
P370+P378 In case of fire: Use dry sand, dry extinguishing agents or alcohol-resistant foam for extinction; P403+P235 Store in well-ventilated place. Keep cool.