

# Shell FENELLA® Fluid D 601

## Water miscible metalworking fluid

Shell FENELLA® Fluid D 601 is a chlorine free, high performance water miscible fluid for deep drawing operations on ferrous metals.

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### Performance Features and Benefits

- **Very high EP and Lubricity** - resulting in prolonged tool life and increased surface finish
- **Good detergency** - for clean machine tools and parts and creating a more pleasant working environment
- **Excellent corrosion protection** - results in lower reject rate and reduced maintenance cost related to corrosion problems
- **Environmental compliance** - free of chlorine, formaldehyde, phenol, nitrite and secondary amines

### Main Applications

- Shell FENELLA® Fluid D 601 is a chlorine – and formaldehyde water miscible fluid for medium to severe deformation processes (deep drawing, punching, pressing, etc...) on ferrous metals.
- Due to the products extremely high extreme pressure (EP) and lubricity properties Shell FENELLA® Fluid D 601 is recommended for use on steel, high-alloyed steels and stainless steels. Shell FENELLA® Fluid D 601 can be used diluted as well as neat concentrate.

Advice on applications not covered in this handbook may be obtained from your Shell representative.

### Recommended Concentrations

The concentration varies depending on the type of deformation process and material, the water hardness and the required inter-operational corrosion protection. The recommended concentration for use in medium water hardness is:

- Easy to medium duty operation: 6-12%
- Heavy operations: 12-30%
- For some application as pure concentrate

### Storage Requirements

The product should be stored inside (5-40°C) for no more than 1 year and be protected from freezing.

### Handling and Safety Information

Please note that mixed coolants work over long periods of time, therefore chemical contamination (hydraulic oils, greases, metal solutions, paints, rust inhibitors, etc.) or bacterial contamination (from dirty hands, work pieces, industrial grade water, sundry waste, etc.) can often occur. Contamination with the above materials should be minimized or ideally eliminated. Regular monitoring of the in-use product is recommended to maintain optimum product condition and determine the end of its useful working life.

For information on the safe handling, storage, or use of this product, refer to its Material Safety Data Sheet at <http://www.epc.shell.com/>. If you are a Shell Distributor, please call 1+800-332-6457 for all of your service needs. All other customers please call 1+800-237-8645 for all of your service needs.

### Protect the Environment

Do not discharge into drains, soil, or water.

## Typical Physical Characteristics

	Unit	Method	Shell FENELLA® Fluid D 601
Mineral Oil Content	%		40.5
Kinematic Viscosity @ 40 °C	cSt	ASTM D 445	36.8
Density @ 20 °C	kg/L	ASTM D 4052	0.918
pH of the emulsion @ 5% (TH40)		DIN 51369	9.2
Corrosion DIN 5% (TH40)	%	DIN 51360/2	3-3
Refractometer Factor			1
Acid Split Factor			2.17

*These characteristics are typical of current production. While future production will conform to Shell specifications, variation in these characteristics may occur.*